(Please Write your Exam Roll No. immediately) Roll No. ……..

END-TERM EXAMINATION

Fourth Semester [MCA] – MAY-JUNE 2006

Paper Code: MCA-204 **Subject: Linux & X-Windows Programming**

Time: 3 Hours **Maximum Marks: 60**

Note: Question 1 is compulsory. Attempt 4 question from rest of paper taking one question from each unit.

Q. 1.

(a) What is the relation between UNIX and LINUX?
(b) What is the security feature in Linux?
(c) What is mounting and unmounting a file in Linux?
(d) Discuss the role of filters in Linux.
(e) What is the purpose of a shell script?
(f) Explain the features of an X-windows system.

UNIT-I

Q. 2. Discuss the architecture of Linux operating system including booting process.

Q. 3. What are system processes on Linux? How do you prepare Linux for networking?

UNIT-II

Q. 4. Explain the management of various users in Linux. Discuss various file permissions also.

Q. 5. Discuss the file system in Linux including sharing files, backing up and restoring files.

UNIT-III

Q. 6. Discuss the features of bash and sh shell in Linux.

Q. 7. Explain the commands for
(a) Working with directories
(b) Finding files
(c) Directory permissions
(d) Filters
(e) Checking disk usage space.

UNIT-IV

Q. 8. Discuss the architecture of X-Windows system.

Q. 9. Discuss event handling in X-Windows. Explain keyboard and mouse management.

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END-TERM EXAMINATION

Fifth Semester [MCA] - DECEMBER 2005

Paper Code: MCA-301 **Subject: Linux & X-Windows**

Time: 3 Hours **Batch -2001, 2002 & 2003** **Maximum Marks: 60**

Note: Attempt any five questions. All questions carry equal marks.

Q. 1. Explain the following Linux commands :- **12**

(a) nohup
(b) kill
(c) pg
(d) tail
(e) paste
(f) cut
(g) ln
(h) egrep
(i) tee
(j) ps
(k) kill
(l) cd

Q. 2. (a) What are different types of shells available in Linux? Explain. **4**

(b) Write a shell script to enter employee name, address and salary of employees in a file emp.dat with each fields separated by a colon. Also check that employee name should not be null and salary should not be less than equal to zero. **8**

Q. 3. (a) What are the different options with test command in shell programming? Explain each of them. **4**

(b) Write a shell script for copying files, where the source file exists and has read permission, check for it else display error message. Also check the target file should not exist in the directory. **8**

Q. 4. (a) What is LILO? How LILO is configured? Explain. **4**

(b) How files are managed in Linux? Give the commands used to get information about the file system. **8**

Q. 5. (a) What are the major components of X-Windows system? Explain. **4**

(b) Write a function in C to create a connection between the X client and X server. **8**

Q. 6. (a) How events are handled in X-Windows? Explain. **6**

(b) How drawing can be done with X-Windows? Explain the different function used for the purpose. **6**

Q. 7. (a) What are system calls? How they differ from interrupts? **4**

(b) Write down the code used for the exit system call. **8**

Q. 8. Write short notes on the following :- **12**

(a) Sockets
(b) Vi Editor
(c) Linux Architecture

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END-TERM EXAMINATION

Fifth Semester [MCA] - DECEMBER 2004

Paper Code: MCA-301 **Subject: Linux & X-Windows**

Time: 3 Hours **Maximum Marks: 60**

Note: Attempt any five questions.

Q. 1. (a) Explain the system V booting process with special emphasis on the rc.d scripts and the role of boot loader. **6**

(b) Describe the login process with reference to the mechanism of password authentication. **6**

Q. 2. (a) Write a shell script to automate the process of user management that is addition and deletion of users. Your script should provide a facility for "blocking" the user from using the system without detection of the user files and for "enabling" users thus "blocked". **8**

(b) How can you run a shell script in the current shell? What are the restrictions on the script thus run? **4**

Q. 3. (a) A system has to be installed for database development. The system has 1 GB of RAM and 4 x 9.1 GB SCSI HDD's. Design the partitions layout (together with sizes) for the optimum utilization of resources. **6**

(b) "A modular kernel is better than a monolithic kernel". Comment. **6**

Q. 4. (a) Write a program in C/C_{++} to display the file system statistics. **6**

(b) Write a program in C/C_{++} to display the processes with their associated PID's. The program should be able to take a PID for a process from the user and either, kill it or change its nice factor as specified by the user. **6**

Q. 5. (a) What are event marks? Give illustrations. **6**

(b) What do you understand by the term "Event-Driven Programming Model"? Explain. **6**

Q. 6. (a) What are shell programming functions? Write a program that adds two numbers. **6**

(b) Explain the usage of the test command for checking the type of a file. **6**

Q. 7. Write a program to demonstrate mouse event handling in X-windows. **12**

Q. 8. Write short notes on any two **12**

(a) Linux History
(b) Linux Architecture
(c) X-Windows Architecture
(d) X-Lib Programming Model

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END-TERM EXAMINATION

FIFTH SEMESTER [MCA] - DECEMBER 2002

Paper Code: MCA-301 **Subject: Linux & X-Windows Programming**

Time: 3 Hours **Maximum Marks: 60**

Note: Attempt any six questions.

Q. 1. (a) Define different types of shell in Linux? Differentiate among them. **4**
(b) Write a shell script to reverse any given string. **6**

Q. 2. (a) How Linux based system can work as a Router. Explain. **5**
(b) How to create, delete and mange groups in Linux. **5**

Q. 3. Explain Linux Architecture and File Management System with layout. **10**

Q. 4. (a) What are the important steps for installing and configuring X-windows? **6**
(b) Explain Event Driven Protocol. **4**

Q. 5. Write a Shell Script to display the number of users logged in during last 10 minutes. **10**

Q. 6. Define a system call in C++. Write a C++ program which uses system calls to delete a file from a C++ program. **10**

Q. 7. (a) Explain the basic network security features of Linux system. **5**

(b) What is Client Server Model and how Windows Management takes place. **5**

Q. 8. Explain different editors in Linux. Discuss any one with functional keys. **10**

Q. 9. Write short notes on
(a) Difference between X-Windows and Microsoft Windows **4**
(b) X-Protocol **3**
(c) Hard Link and Symbolic Link **3**

(Please Write your Exam Roll No. immediately) Roll No. ……..

END-TERM EXAMINATION

FIFTH SEMESTER [MCA] - DECEMBER 2001

Paper Code: MCA-301 **Subject: Linux & X-Windows Programming**

Time: 3 Hours **Maximum Marks: 60**

Note: Attempt any six questions. All questions carry equal marks.

Q. 1. Write short note on the following: (Any Five)
- (a) LILO
- (b) Features of LINUX
- (c) Networking of LINUX
- (d) History of LINUX
- (e) File Permissions
- (f) Login Process

Q. 2. Explain Booting and Shut down process?

Q. 3. Differentiate between the Mounting and Unmounting File system.

Q. 4. Explain the following commands with example.
- (a) Sort
- (b) Find
- (c) GREP
- (d) Mount
- (e) Gawk

Q. 5. Write short notes on the following (Any two) :-
- (a) History of X-Windows
- (b) X-Protocols
- (c) Event Driven Programming Model

Q. 6. (a) Explain X-Tools Kit Programming Model with an example?

(b) Describe how one can use color in an X-application.

Q. 7. Write a Shell Program to add user account in a root system?

Q. 8. What is a Network File System (NFS)? Explain the usage of following to configure Ethernet card on a Linux System :-

- (a) Letc /hosts
- (b) Letc / networks
- (c) Resolv.conf
- (d) Letc/services

Q. 9. Differentiate between the following with example.

(a) Home and Root Directory
(b) BASH and TCSH
(c) Hard Link and Symbolic Links
(d) Absolute and Relative pathnames
