

(i) Printed Pages : 3

Roll No. ....

(ii) Questions : 9

Sub. Code :

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Exam. Code :

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**M.Sc. Information Technology 1<sup>st</sup> Semester  
(2124)**

**Opt(i) LINUX ADMINISTRATION AND PROGRAMMING**

**Paper : MS-66**

**Time Allowed : Three Hours]**

**[Maximum Marks : 80**

**Note :—** Attempt **five** questions in all, choosing **one** question from each Section. Q. No. 9 in Section E is compulsory.

**SECTION—A**

1. (a) Discuss main functions of an operating system. 4
- (b) What are minimum system requirements for installing the Linux operating system ? 6
- (c) How grep command is used to search for a pattern in one or more files ? 3
- (d) What is purpose of LILO in Linux ? 3
2. Explain the following in the context of Linux :
  - (a) Environment variables. 4
  - (b) Install and configure LILO. 6
  - (c) Kill command. 3
  - (d) Searching and replacing text in vi editor. 3

## SECTION—B

3. Explain the following commands with complete syntax. Also explain various options available with each :
- (a) cp
  - (b) cat
  - (c) alias
  - (d) history 4+4+4+4
4. (a) What are the different directory permissions in Linux ?  
How will you change the directory permissions in Linux ? 4
- (b) Write a short note on different bash variables. 4
- (c) What is the difference between moving a file and copying a file ? Give examples of moving files with wildcard characters. 4
- (d) What is the purpose of UMASK setting ? 4

## SECTION—C

5. (a) Write a shell script to demonstrate the working of case statement. 6
- (b) What is a function ? Explain with the help of a shell script. 5
- (c) Explain loop control with the help of a shell script. 5

6. As a Linux System Administrator, how do you perform the following ?
- (a) Checking and Repairing file systems. 4
  - (b) Setting a DNS. 4
  - (c) Compressing of files. 4
  - (d) Unmount a file system. 4

### SECTION—D

7. (a) Write a Perl program to demonstrate adding and deleting elements in an array. 8
- (b) What is a function ? How arguments are passed to a function ? 4
- (c) Discuss various relational operators available in perl. 4
8. What is a system call ? Explain the working of following system calls :
- (a) fork ()
  - (b) getppid ()
  - (c) dup ()
  - (d) signal () 16

### SECTION—E

#### (Compulsory Question)

9. (a) Which command is used to setup a Linux client ? 2
- (b) What is DNS ? 3
- (c) What are positional parameters in Linux ? 3
- (d) What is the function of ping command ? 3
- (e) What is the use of test command ? 3
- (f) What is a background process in Linux ? 2