

Roll No. ....

Total Pages:  
**10461**

**MCA/D-12**  
**LINUX & SHELL PROGRAMMING**  
**Paper-MCA-502**

Time allowed: 3 hours

Maximum marks: 80

**Note:** Attempt five questions in all. Question no. 1 is compulsory. In addition, Attempt exactly one question from each unit.

**Compulsory Question**

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|--|---|
| 1. (a) Discuss the features of Linux/Unix operating system.                  | 3 |
| (b) Explain chmod command in Linux.  | 3 |
| (c) Differentiate between grep, egrep and fgrep.                             | 3 |
| (d) Explain various types of signals in Linux/Unix. How can they be handled? | 3 |
| (e) Discuss the purpose of Fdisk and Mkfs in brief.                          | 3 |
| (f) Differentiate between dynamic and static memory.                         | 3 |
| (g) What is the different between while and until loop? Explain              | 3 |
| (h) Discuss the built-in shell variables?                                    | 3 |

**Unit-I**

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|--|---|
| 2. (a) Explain the process of logging in logging out in Linux. | 7 |
| (b) Explain the following in brief :                           |   |
| (i) sort           (ii) more                                   |   |
| (iii) tr          (iv) paste   (v) pr                          | 7 |
| 3. Explain the following in Linux:                             |   |
| (a) Directory oriented Commands.                               | 5 |
| (b) Communication oriented Commands.                           | 4 |
| (c) Process oriented Commands.                                 | 5 |

**Unit-II**

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|---|----|
| 4. What do you understand by a file in Linux/Unix? Explain various categories of file. Also explain the structure and components of file system alongwith various types of file systems. How file system can be mounted and unmounted in Linux. | 14 |
| 5 (a) What do you understand by a process in Linux/Unix? How is it created? Explain the birth and death of process in Linux.  | 7  |
| (b) How the processes can be controlled using at, batch, cron and time?   | 7  |

**Unit-III**

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|--|---|
| 6. (a) Write short note on vi editor by discussing its important features.   | 5 |
| (b) How are the users added and removed from the Linux/Unix system?  | 5 |
| (c) Explain the uses of gzip utility.  | 4 |
| 7. (a) Explain various operators provided by shell for string comparison, numeric Comparison, file checking and logical operators. | 7 |
| (b) Write a shell program to generate first n prime numbers.   | 7 |

#### **Unit-IV**

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| 8. Discuss the various principles of make file. On the basis of these principles create a Make file and explain. | 14 |
| 9. Write short note on the following:  |    |
| (a) Idd.   | 4  |
| (b) Debugging with gdp.  | 5  |
| (c) Dynamic loader.  | 5  |