

Roll No.

Total Pages : 03

BT-7/M-20

37006

UNIX AND LINUX PROGRAMMING

CSE-471

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *Five* questions in all, selecting at least *one* question from each Unit. All questions carry equal marks.

Unit I

1. (a) What are the different tasks performed by the Kernel in Unix Operating System ? **8**
- (b) What are the roles of shell in Unix Operating System ? **7**
2. (a) How many different types of shells are there in Unix Operating System ? Explain in detail. **8**
- (b) Explain the time-sharing and client-server environment of the Unix Operating System. **7**

Unit II

3. (a) Find out the occurrences of three consecutive and identical word characters like aaa or bbb using :
 - (i) grep
 - (ii) sed. **8**

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- (b) What is the difference between a wild-card and a regular expression ? 7
- 4. (a) Develop an AWK program to summarize from the list of all processes, a count of processes run by every user including root. 8
- (b) Write a PERL based program that takes a filename as argument, checks whether the file exists and prints binary if the file is binary. 7

Unit III

- 5. (a) Explain in detail, how debugging with gdb tool is performed to find out the bugs ? 8
- (b) What is soname ? What is the role of dynamic loader in programming ? 7
- 6. (a) What is the significance of Makefile utility in Unix environment ? Explain with an example. 8
- (b) Why does a static library have the lib prefix ? What suffix does it have ? Where are the system's library and include files available ? 7

Unit IV

- 7. (a) What does bootstrapping process mean and how the finger process display the detailed information about every user currently logged into the Unix system ? 8

- (b) How does a firewall provide the security by restricting the flow of information ? Explain. 7
- 8. (a) How does an authorization process ensure about the right person logging into the system ? 8
- (b) What are the significances of supplying a password while creating a new user in the system ? 7