SARDAR PATEL UNIVERSITY
MASTER OF COMPUTER APPLICATIONS
SEMESTER – IV
COURSE PS04CMCA21 (The Linux Operating System)
PS04CMCA07 Thursday 4th April 2019

Time: 2:00 pm to 5:00 pm　　　　　　　　　　**Max. Marks: 70**

Q-1 Choose the most appropriate option for each question:　　　　　　**[8]**

1. _____ is the pioneer of Linux operating system.
   - **A)** Linus Tanenbaum
   - **B)** Dennis Ritchie
   - **C)** Linus Torvalds
   - **D)** Ken Thompson

2. Ubuntu Linux releases _____ new version(s) each year.
   - **A)** One
   - **B)** Two
   - **C)** Three
   - **D)** Four

3. _____ is home directory for root user.
   - **A)** /root
   - **B)** /home
   - **C)** /etc
   - **D)** /

4. _____ Directory is used to mount files on permanent basis at boot time.
   - **A)** /mount
   - **B)** /drive
   - **C)** /conf
   - **D)** /mnt

5. Which of the following can be used to access the value of the variable *count*?
   - **A)** ${count}
   - **B)** $(count)
   - **C)** count
   - **D)** $[count]

6. Which options of the shell can be used to turn debugging off?
   - **A)** -xv
   - **B)** -xd
   - **C)** +xd
   - **D)** +xv

7. Which system call is commonly used to open a file in write mode?
   - **A)** open
   - **B)** fopen
   - **C)** creat
   - **D)** create

8. Which *awk* variable represents the total number of lines in the input?
   - **A)** NF
   - **B)** NR
   - **C)** TNF
   - **D)** TNR

Q-2 Answer the following questions (Any Seven):　　　　　　　　　**[14]**

1. List any four advantages of the Unix operating system.
2. List any four categories of free software.
3. Mention any two reasons for commercial organizations to take part in free software development.
4. Explain the syntax of the original *for* statement in the shell with an example.
5. Give an example of using *printf* in a shell script. What is the difference between the outputs of *echo "Hello World!"* and *printf "Hello World!"*?
6. Explain any two options of the *tr* command.
7. Explain the syntax of the *read* command. Explain at least one option of *read*.

(1)

(P.T.O)

8. List any two commands that use the *-R* option to indicate recursive processing of the argument, including sub-directories, sub-sub-directories, etc.
9. What is the use of the */etc/fstab* file?

Q-3
   A. Discuss the pros and cons of the Linux operating system in detail.   [6]

   B. Explain the vim editor in detail with its major commands and uses.   [6]

<div align="center">OR</div>

   B. Write a detailed note on history of Linux operating system.   [6]

Q-4
   A. Explain with figures any three forms of I/O redirection.   [6]

   B. Explain with examples the three ways of performing integer arithmetic in the shell.   [6]

<div align="center">OR</div>

   B. Write a short note on the *expr* command.   [6]

Q-5
   A. Describe any six options of the *grep* command.   [6]

   B. Write a short note on the *sed* command.   [6]

<div align="center">OR</div>

   B. Explain the Linux system calls with at least three examples.   [6]

Q-6
   A. Explain in detail the structure and architecture of the Linux operating system.   [6]

   B. Write a detailed note on user management in Linux.   [6]

<div align="center">OR</div>

   B. List and explain any three system configuration file of Linux with its structure and application.   [6]