

S.No. : 163

MCA 2401

No. of Printed Pages : 04

Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 21207

Roll
No.

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MCA. Examination 2018-2019

(Even Semester)

UNIX AND SHELL PROGRAMMING

Time : Three Hours]

[Maximum Marks : 60

Note :- Attempt all questions.

SECTION – A

1. Attempt all parts of the following : $8 \times 1 = 8$

- (a) What is the windowing system of UNIX known as?
- (b) Which part of the UNIX operating system interacts with the hardware?
- (c) Name the command used to run the script when we should make it executable first.
- (d) What are positional parameters?
- (e) Name the command used to suspend a job?

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- (f) Which symbol with at command is used to redirect our output to a specified file.
- (g) What is the PID of the process 'init'?
- (h) Which command is used to unmount a file system.

SECTION – B

1. Attempt any two parts from the following : $6 \times 2 = 12$
 - (a) Discuss internal and external commands with suitable examples.
 - (b) List and explain the different modes of vi editor. Also explain different modes of quitting vi editor.
 - (c) What is a process? Explain different mechanisms of process creation.
 - (d) Write a script to backup a list of files.

SECTION – C

3. Attempt any two parts from the following $2 \times 5 = 10$
 - (a) A file's current permission are `rw-r-xr--`. Specify the `chmod` expression required to change them for the following :

- (i) `rwX rwx rwx`
- (ii) `r--r-----`
- (iii) `-----`
- (iv) `---r---r--`

Using both relative and absolute methods of assigning permissions.

- (b) What is the purpose to `grep` command? Explain various options available with `grep` command giving examples of each.
 - (c) Describe the features of UNIX operating system in detail.
4. Attempt any two parts from the following $2 \times 5 = 10$
 - (a) Explain 'How do you multiplex multiple writes to the same pipe.'
 - (b) Write a script that accepts a file name as argument and displays the last modification time if the file exists and a suitable message if it does not.
 - (c) Explain the following Environmental variable with examples.
 - (i) `CDPATH`

- (ii) ENV
- (iii) PWD
- (iv) MAIL

5. Attempt any two parts from the following : $5 \times 2 = 10$

- (a) Suppose a process does not wish to block until its children terminate. How can it ensure that child processes are cleaned when they terminate?
- (b) What is a Semaphore? How to synchronize process using semaphore?
- (c) What are the phases in signaling process? Explain what is meant by a life time of a signal.

6. Attempt any two parts from the following : $5 \times 2 = 10$

- (a) How do you switch from one desktop to another such as switching from KDE to Gnome?
- (b) Define zombic and orphan processes. Explain process control in UNIX.
- (c) Explain the facilities available in UNIX GUI and X-windows.
