Roll No. | | | | | | | | | |

B.C.A.

FIFTH SEMESTER EXAMINATION, 2017-18

UNIX AND SHELL PROGRAMMING

Time : **3 Hours**   Max. Marks : **100**

Note : **(i)**   Attempt **ALL** questions.
         (ii) Choices are given in each question set.

1.   Attempt any **Four** of the following questions: **5 x 4 = 20**

   (a) Explain the role of Kernel and Shell in UNIX Architecture.

   (b) Explain various block of UNIX file system.

   (c) What is the role of Inode in UNIX file system?

   (d) Explain various Disk related commands.

   (e) Define and explain the following with suitable example:

   (i)   chmod   **(ii)**   ls

   (iii) who   **(iv)** uname

   (v)   pwd

   (f) What is the use of following commands in UNIX? Explain with suitable example:

   (i)   bc   **(ii)**   date

   (iii) cmp   **(iv)** rmdir

   (v)   wc

2.   Attempt any **Four** of the following questions: **5 x 4 = 20**

   (a) Define Process. How a new process is created in UNIX?

   (b) Differentiate between Foreground and Background process. How a foreground process is executed as background process?

(c) What is Scheduling? Explain different commands in process scheduling.

(d) Explain the following with suitable example:

(i) Nice   (ii) ps

(iii) Nohup   (iv) Kill

(v) fork()

(e) What is the significance of PID and PPID?

(f) How we can create and edit file using vi editor? Explain different modes of vi editor.

3. Attempt any **Two** of the following questions: **10 x 2 = 20**

(a) What are roles and responsibilities of a Superuser in UNIX system administration? How a user become a Superuser.

(b) (i) Discuss User management in UNIX. Explain various commands of user management in UNIX.

(ii) What is Run level? Explain different run levels.

(c) (i) What do you mean by Mounting and Unmounting of a file system.

(ii) Describe how UNIX is more secure than other operating system?

4. Attempt any **Two** of the following questions: **10 x 2 = 20**

(a) (i) Write a Shell script to check whether the entered number is prime or not.

(ii) Explain various types of loop's supported by Shell programming.

(b) (i) Explain test command in Shell programming with suitable example.

(ii) Write a Shell script to enter the marks of 5 subjects and calculate the percentage.

(c) (i) What are positional parameters? Explain set and shift commands in Shell programming.

(ii) Write a menu based Shell script for basic mathematical operations.

5. Attempt any **Two** of the following questions: **10 x 2 = 20**

(a) Explain the following with suitable example:

(i) cut   (ii) paste

(iii) tr   (iv) uniq

(v) sort

(b) (i) Explain grep with suitable example. Differentiate between egrep and fgrep.

(ii) What is Sed? Explain the functionality of Sed.

(c) Write short notes on the following:

(i) awk

(ii) Text formatting tool