B.C.A. (Part-III)   **LIN. & SHE. PRO.**

306–C

B.C.A. (Part-III) Examination, 2021

(Faculty of Science)

(Three-Year Scheme of 10+2+3 Pattern)

LINUX AND SHELL PROGRAMMING

Time Allowed : 3 Hours   **Maximum Marks : 100**

Answer of all the questions (short answer as well as descriptive) are to be given in the main answer-book only. Answers of short answer type questions must be given in sequential order. Similarly all the parts of one question of descriptive part should be answered at one place in the answer-book. One complete question should not be answered at different places in the answer-book.

Write your roll number on question paper before start writing answers of questions.

Question paper consists of **three** Parts.

All three parts are compulsory.

PART-I : (Very Short Answer) consists 10 questions of 2 marks each. Maximum limit for each question is upto 40 words.

PART-II : (Short Answer) consists 5 questions of 4 marks each. Maximum limit for each question is upto 80 words.

PART-III : (Long Answer) consists 5 questions of 12 marks each with internal choice.

PART–I

1. Attempt all questions :

    (a)   What is Linux?

    (b)   Explain booting in brief.

    (c)   List out the different file types in Linux.

    (d)   What is directory structure?

    (e)   Explain the functions of Linux Kernel.

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(f) What is command line editing?

(g) Give the introduction of Shell.

(h) Write the syntax for "while loop".

(i) Explain head and tail filters?

(j) What is mounting file? 10×2=20

PART-II

2. (a) Differentiate between Shell & Kernel in Linux.

(b) What is file system in Linux? Explain.

(c) Explain the following commands with their syntax and examples :

(i) nslookup

(ii) find

(iii) chmod

(iv) traceroute

(d) What is redirection? Explain.

(e) What do you mean by directory stack manipulation? 5×4=20

PART-III

UNIT-I

3. What are permissions in Linux? How can you apply for the permissions for the files and directories?

OR

Explain the Linux file system architecture with the help of its diagram.

UNIT-II

4. How can we use the debugging C programs using gdb?

OR

Explain mounting & unmounting files in detail.

UNIT–III

5. Explain the following with examples :

   (a) "Vi" text editor for the creating files.

   (b) "grep" command and its usefulness.

OR

Write down the step for creating & editing files in Vi editor.

UNIT–IV

6. Write a Shell script to generate the factorial of N numbers using through keyboard.

OR

What is the difference between redirection and piping? Design a pipe that sorts by login name the list of people currently using the system.

UNIT–V

7. Differentiate between "for loop" and "while loop" in detail.

OR

Write a Shell script to find the sum of all positive even numbers less than 100.

$5 \times 12 = 60$

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