**POORNIMA UNIVERSITY, JAIPUR**

**END SEMESTER EXAMINATION, November 2022**

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|  | **2BC3102** | Roll No. | Total Printed Pages: 2 |
| **2BC3102** |  |
| BCA II Year III- Semester (Main/Back) End Semester Examination, November 2022  **(AI&DS / CS / Mobile / Gen / Cloud)** | |
| **BCACCA3102 : Linux and Shell Script** | | | |

# Time: **3** Hours. Total Marks: **60**

Min. Passing Marks: **21**

Attempt **five** questions selecting one question from each Unit. There is internal choice from Unit I to Unit V. Marks of each question or its parts are indicated against each question / parts. Draw neat sketches wherever necessary to illustrate the answer. Assume missing data suitably (if any) and clearly indicate the same in the answer.

Use of following supporting material is permitted during examination for this subject.

# **1.--------------------------Nil--------------------** **2.------------------Nil-----------------------**

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|  |  | **UNIT-I (CO1)** | **Marks** | **Bloom Level** |
| **Q.1** | **(a)** | Explain architecture of Linux with proper component of Linux and interaction between them? Explain its reason with brief history of Linux. | **(6)** | **Understanding** |
|  |  |  |  |  |
|  | **(b)** | Explain how to install gcc compiler in centos. How to write a program in C to demonstrate simple calculator and view its output | **(6)** | **Apply** |
|  |  |  |  |  |
|  |  | **OR** |  |  |
|  |  |  |  |  |
| **Q.2** | **(a)** | Write short notes on following commands with proper syntax:  ls, rmdir ,cp, echo, mv, cat, chmode. | **(6)** | **Understanding** |
|  |  |  |  |  |
|  | **(b)** | Create directory (2) in same directory create file with name student.txt input student data as name address and phone number in it. (3) Sort the created file and save the input in new\_student.txt file.  Note:- single script must be written . Marks will be allocated with proper creation of script and running steps with output | **(6)** | **Apply** |
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|  |  | **UNIT-II (CO2)** |  |  |
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| **Q.3** | **(a)** | Write a Shell script do demonstrate the for loop with example and output? | **(6)** | **Apply** |
|  |  |  |  |  |
|  | **(b)** | Write a Shell script to add two numbers using command line arguments. Also print the program name in which Shell script is written? | **(6)** | **Apply** |
|  |  |  |  |  |
|  |  | **OR** |  |  |
|  |  |  |  |  |
| **Q.4** | **(a)** | Demonstrate the different types of filters used in Linux with proper example | **(6)** | **Understand** |
|  |  |  |  |  |
|  | **(b)** | Create a two text file with name name.txt and age.txt. With 5 entries in both file.   1. merge both the file contain in one file 2. Display the top contents of merge file.   Note:- use pipe to do so and explain the process also. | **(6)** | **Apply** |
|  |  |  |  |  |
|  |  | **UNIT-III (CO3)** |  |  |
| **Q.5** | **(a)** | Illustrate the grep command to search a string in (1) single file (2)multiple file (3) highlight the searched text (4) case insensitive search | **(6)** | **Understand** |
|  |  |  |  |  |
|  | **(b)** | Create text file pu.txt having text “Welcome to Poornima University, Best private University in Rajasthan”  1) Write command to find University and its occurrence in pu.txt  2) command to display file names which contain word University | **(6)** | **Apply** |
|  |  |  |  |  |
|  |  |  |  |  |
|  |  | **OR** |  |  |
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| **Q.6** | **(a)** | Write a Shell script to handle System calls in Linux? | **(6)** | **Understand** |
|  |  |  |  |  |
|  | **(b)** | What are File Descriptors? List All File Descriptors Of A Process in Linux with their utilization and example. | **(6)** | **Understanding** |
|  |  |  |  |  |
|  |  | **UNIT-IV (CO4)** |  |  |
|  |  |  |  |  |
| **Q.7** | **(a)** | Write shell script to demonstrate zombie process and orphan process? Explain both the process? | **(6)** | **Apply** |
|  |  |  |  |  |
|  | **(b)** | Schedule task to move all your text file in single directory on every Friday at 10:00 am? Also Get the process id of the running process? | **(6)** | **Apply** |
|  |  |  |  |  |
|  |  | **OR** |  |  |
|  |  |  |  |  |
| **Q.8** | **(a)** | What do you mean by file locking? What is race condition and how to get rid of it? | **(6)** | **Apply** |
|  |  |  |  |  |
|  | **(b)** | Write Short notes on (a) sleep (b) Interrupts (c) sleep function? | **(6)** | **Understand** |
|  |  |  |  |  |
|  |  | **UNIT V (CO5)** |  |  |
|  |  |  |  |  |
| **Q.9** | **(a)** | Explain different types of inter process communication with suitable example and diagram? | **(6)** | **Understanding an apply** |
|  |  |  |  |  |
|  | **(b)** | Write a script to create pipe to send and receive message. What do you mean by message queue? Explain with example. | **(6)** | **Understanding an apply** |
|  |  |  |  |  |
|  |  | **OR** |  |  |
|  |  |  |  |  |
| **Q.10** | **(a)** | Write a perl program for Menu Driven calculator? | **(6)** | **Apply** |
|  |  |  |  |  |
|  | **(b)** | Write a perl program for server client communication? | **(6)** | **Apply** |