Reg. No. \_\_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov / Dec – 2019**

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| **Code :** | **17BI2010** | **Duration :** | **3hrs** |
| **Sub. Name :** | **LINUX AND R PROGRAMMING** | **Max. Marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Enumerate the features of the Linux operating system. | CO1 | 5 |
| c. | Explain the directory structure and file hierarchy of the Linux operating system with figure. | CO3 | 15 |
| **(OR)** | | | | |
| 2. | a. | Discuss the output of the following command;  (i) usr:/$ chmod u+x dat1 (ii) chown mydev –r usr. | CO1 | 6 |
| b. | Illustrate the steps involved in linux boot process with a neat sketch. | CO3 | 14 |
|  |  |  |  |  |
| 3. | a. | Compare and contrast primary name server with secondary name server in Domain Name Servers (DNS). | CO3 | 5 |
| b. | List any five record types and its usage in configuring the DNS. | CO3 | 15 |
| **(OR)** | | | | |
| 4. | a. | Discuss the various steps involved in configuring the apache server. | CO3 | 14 |
| b. | Differentiate hard mount from soft mount in Network File System (NFS) operations. | CO3 | 6 |
|  |  |  |  |  |
| 5. | a. | Write the R matrix command to create the following matrix.  [,1] [,2] [3]  [1,] 1 2 3  [2,] 4 5 6  [3,] 7 8 9 | CO4 | 4 |
| b. | Write R command to create the following data frame with data and answer the following quires.   |  |  |  | | --- | --- | --- | | **Emp\_ID** | **Emp\_name** | **Salary** | | 101 | Rick | 50000 | | 102 | Dan | 60000 | | 103 | Michelle | 70000 | | 104 | Ryan | 55000 | | 105 | Gary | 40000 |     (i) Display the maximum salary. (ii) Display first three rows.  (iii) Display the names of the employees. | CO4 | 10 |
|  | c. | Determine the output of the following R programs.   1. x>-c(1:5)   y>-c(2,3)  x\*y=?   1. x=c(“mon”,”tues”,”wed”)   y=c(1,2,3)  c(x,y)=?   1. x=c(1,2,4) + c(6,0,9,20,22)   x=? | CO4 | 6 |
| **(OR)** | | | | |
| 6. | a. | Write short notes on the following R data structures.  (i) Lists (ii) Factors in data frame (iii) Arrays. | CO4 | 10 |
| b. | Explain the various control structures used in R programming with suitable example. | CO4 | 10 |
|  |  |  |  |  |
| 7. |  | Discuss the procedure to read, write and analyze data from different file formats using data interface concept with suitable examples. | CO5 | 20 |
| **(OR)** | | | | |
| 8. |  | Explain the procedure to intall a new package and demonstrate the installation of any one R package for a Bioinformatics applications with suitable code. | CO6 | 20 |
|  | | **Compulsory**: |  |  |
| 9. |  | Explain linear regression in detail and find the linear regression line by calculating the slope and intercept.   |  |  | | --- | --- | | Height(x) | Weight(y) | | 62 | 115 | | 64 | 120 | | 66 | 140 | | 68 | 155 | | 70 | 160 | | CO6 | 20 |