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| **DIT UNIVERSITY, DEHRADUN**   |  |  | | --- | --- | | **B.TECH (CSE)** | **: ENDTERM EXAMINATION,ODD SEM 2023-24 (SEM V)** | | | | | | | | | | | | | |
| **Roll No.** |  |  |  |  |  |  |  |  |  |  |  |  |
| **Subject Name: R Programming** | | | | | | | | | | | | |

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| **Time: 3 Hours** | **Total Marks: 100** |
| **Note: All questions are compulsory. No student is allowed to leave the examination hall before the completion of the exam.**  **\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**   |  |  |  | | --- | --- | --- | | **Q.1)** | **Attempt all Parts :** | | |  | (a) | Illustrate R constant and variables with example. | |  | (b) | What are built-in and user-defined functions? Illustrate with examples. | |  | (c) | Write a program to create a matrix of four rows and three columns and demonstrate use of rbind and cbind operations on created matrix. | |  | (d) | Write a program to explain all the aspect of switch cases in R programming. | |  |  | **[4 x 5= 20]** | | **Q.2)** | **Attempt all Parts :** | | |  | (a) | Differentiate between R and S Programming. | |  | (b) | Discuss the different types of functions for reading and writing data in R. | |  | (c) | Write a program to add a row in existing data frame and print the summary and structure. | |  | (d) | Write a R program to find the maximum and the minimum value of a given vector. Explain the functions with syntax. | |  |  | **[4 x 5= 20]** | | **Q.3)** | **Attempt any two parts :** | | |  | (a) | Create a data frame with attributes Eid, Ename, Esalary, Eclass and Edept. Name its rows and find a subset of data frame whose department is HR and salary is greater than 500. | |  | (b) | Write short note on the following:   1. Boxplots 2. Histograms | |  | (c) | Discuss the major drawbacks of K-nearest Neighbour learning Algorithm and how it can be corrected. | |  |  | **[2 x 10= 20]** | | **Q.4)** | **Attempt any two parts :** | | |  | (a) | Demonstrate the concept of Identify and handle missing values in R with example. | |  | (b) | Explain the term covariance and correlation with suitable examples. | |  | (c) | Illustrate Clustering. Explain K-means with suitable example. | |  |  | **[2 x 10= 20]** | | **Q.5)** | **Attempt any two parts :** | | |  | (a) | Illustrate CSV file. Write a program a read a CSV file and append its data to an existing “apdem.csv” file. | |  | (b) | Write a program to find the mean, median, standard deviation and variance of the following numbers:  5, 7, 6, 9, 11, 10, 7, 6, 12, 9, 3, 6, 1, 11, 14, 10, 2 | |  | (c) | Write the short note on the followings:   1. Regression 2. Decision Tree | |  |  | **[2 x 10= 20]** | | -----END OF PAPER ---- | | | | |