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| **DIT UNIVERSITY DEHRADUN**   |  |  | | --- | --- | | **B.TECH (CSE)** | **MID TERM EXAMINATION, ODD SEM 2022-23 (SEM V)** | | | | | | | | | | | | | |
| **Roll No.** |  |  |  |  |  |  |  |  |  |  |  |  |
| **Subject Name: R Programming** | | | | | | | | | | | | |

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| **Time: 2 Hours** | **Total Marks: 50** |
| **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 :** | | **BTL** | **CO** | |  | **(a)** | Write the difference between followings.   1. <- and <<- 2. cat and paste | **L3** | **1** | |  | **(b)** | Write all the possible ways to create vector in R. | **L3** | **3** | |  | **(c)** | Write a R program with output to check if a character or a sequence of characters are present in a string. | **L3** | **2** | |  | **(d)** | What is the output of   1. x=c(1,2,3)   class(x)   1. x=1:3   class(x) | **L1** | **1** | |  |  | **[4 x 2.5= 10]** |  |  | |  | | |  |  | | **Q.2)** | **Attempt all Parts :** | | **BTL** | **CO** | |  | **(a)** | Write a program which uses the concept of default parameter values in function. | **L3** | **2** | |  | **(b)** | What is the output of  (i)  a<-10  typeof(a)    (ii)  text <- "awesome "  p=cat("I am", text)  print(p) | **L1** | **1** | |  | **(c)** | Write a R program to find the sum of all the even number between 1 to 99 using recursion. | **L3** | **2** | |  | **(d)** | What is the output of  my\_function=function (fname, lname)  {  cat(”hello ”, fname)  }  my\_function(“ABC”) | **L1** | **2** | |  |  | **[4 x 2.5= 10]** |  |  | |  | | |  |  | | **Q.3)** | **Attempt any Two Parts :** | | **BTL** | **CO** | |  | **(a)** | In R programming   1. Which statement is used to stop the loop before it has looped through all the items? 2. Which statement is used to skip an iteration without terminating the loop? 3. Which loop is used to execute the same code again and again until an explicit termination condition is met? 4. Which loop does not require an indexing variable to set beforehand, like with while loops? 5. Output of 17 %/% 3 | **L1** | **2** | |  | **(b)** | Write a program to explain element wise AND and OR operator. | **L3** | **2** | |  | **(c)** | What is the output of  p=1:10  m=p+c(1,2,3)  print(m) | **L1** | **3** | |  |  | **[2 x 5= 10]** |  |  | |  | | |  |  | | **Q.4)** | **Attempt any Two Parts :** | | **BTL** | **CO** | |  | **(a)** | Write a R program with output to find the frequency of a digit in the number. | **L3** | **2** | |  | **(b)** | Write all the properties of atomic vectors. | **L3** | **3** | |  | **(c)** | Describe any five arithmetic operators using an appropriate R program with output. | **L2** | **2** | |  |  | **[2 x 5= 10]** |  |  | |  | | |  |  | | **Q.5)** | **Attempt any Two Parts :** | | **BTL** | **CO** | |  | **(a)** | Write a R Program to check a number is palindrome or not. | **L3** | **2** | |  | **(b)** | Write a R program with output to find the sum of the digits of the number. | **L3** | **2** | |  | **(c)** | Write a program to demonstrate the nesting of functions. | **L3** | **2** | |  |  | **[2 x 5= 10]** |  |  | | **-----END OF PAPER ----** | | |  |  | | |