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Name.....

Reg. No.....

**THIRD SEMESTER (CBCSS-UG) DEGREE EXAMINATION, NOVEMBER 2022**

Econometrics and Data Management

CSC 3(4) C07—PYTHON AND R PROGRAMMING

Time : Two Hours

Maximum : 60 Marks

**Section A**

*Answer all questions.  
Each question carries 2 marks.  
Maximum Ceiling 20 marks.*

1. Give the syntax of *if...elif...else* statement in Python.
2. What are immutable objects in Python ? Give examples.
3. What are sets in Python ?
4. What is fancy indexing in Python ? Explain.
5. Write a short note on logical operators in Python.
6. What is the purpose of lambda function in Python ? Explain.
7. What is MongoDB ? Give its use in Python.
8. List any two features of R language.
9. What is the difference between ANOVA and t-test ?
10. How to create a Box Plot in R ?
11. What is Multiple Linear regression ?
12. What type of analysis is Kruskal-Wallis ?

**Section B**

*Answer all questions.  
Each question carries 5 marks.  
Maximum ceiling 30 marks.*

13. Explain the salient features of Python programming language.
14. Explain any five built-in Tuple functions.
15. Write a Python program to compute the factorial of a number using recursion.
16. Explain *try...except* statement in Python with suitable example.

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17. Write a program in R using *while* loop construct with *continue* statement for printing all even numbers in between 10 and 100.
18. Write about scatter plot and histograms in R with examples? Explain its importance.
19. Write about *apply* method in R? write about *lapply* and *sapply* with suitable examples

### Section C

*Answer any one question.  
The question carries 10 marks.*

20. Explain the syntax and function of different loop control statements in Python with examples.
21. Write a short note on the following objects in R :
  - (i) Vector.
  - (ii) Data frame.
  - (iii) Matrix.
  - (iv) List.