



JAS-1603220001050500 Seat No. _____

B. Sc. (Bioinformatics) (Sem. V) Examination

December - 2019

BI - 505 : Python & R Programming
(New Course)

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- Instructions :** (1) All questions are compulsory.
(2) The right side figures indicate total marks of the question.

- 1 Attempt the following : 14
- (A) Answer the following short questions : (All Compulsory) 4
- (1) Which mode is used to create a new file?
 - (2) Convert "CHRIST" into lowercase with python function.
 - (3) What is extension of python file?
 - (4) Which symbol is used for single line comment in python?
- (B) Answer Any **One** of the following questions : 2
- (1) List out different modes of file.
 - (2) Compare python syntax with other programming languages.
- (C) Answer Any **One** of the following questions : 3
- (1) Why python should be used?
 - (2) Explain Bash shell scripting language.
- (D) Answer Any **One** of the following questions : 5
- (1) What is python? What python can do?
 - (2) Write a python script to append the text in an existing file and then read it.

- 2** Attempt the following : **14**
- (A) Answer the following short questions : (All Compulsory) **4**
- (1) List out the collection data types in python.
 - (2) Which function is used to test whether a file or folder exists?
 - (3) Define loop.
 - (4) Give two dictionary method names.
- (B) Answer Any **One** of the following questions : **2**
- (1) Write a python script to find out minimum value from three numbers.
 - (2) Explain nested if conditional test in python.
- (C) Answer Any **One** of the following questions : **3**
- (1) Explain break/continue statement with example.
 - (2) Explain input() in detail with example.
- (D) Answer Any **One** of the following questions : **5**
- (1) Explain dictionary in detail.
 - (2) Write a python script to print ascending/descending value between two different numbers (User must enter two different number)
- 3** Attempt the following : **14**
- (A) Answer the following short questions : (All Compulsory) **4**
- (1) What is constructor?
 - (2) What is overriding?
 - (3) Define filter().
 - (4) What is Polymorphism?

- (B) Answer Any **One** of the following questions : 2
- (1) Explain set with one example.
 - (2) What is finally block?
- (C) Answer Any **One** of the following questions : 3
- (1) Explain basic concept of functional python.
 - (2) Explain generator expression.
- (D) Answer Any **One** of the following questions : 5
- (1) Explain exception handling in detail with example.
 - (2) What are List comprehensions. Explain with example.
- 4 Attempt the following : 14
- (A) Answer the following short questions : (All Compulsory) 4
- (1) R was developed by _____
 - (2) Name the attributes of a Factor.
 - (3) gl() function?
 - (4)

```
> x = 1; y = 2
> z = x > y
> print(z)
> class(z)
```

What will be the output for print () and class ()?
- (B) Answer Any **One** of the following questions : 2
- (1) What are objects and its attributes?
 - (2) What is R?
- (C) Answer Any **One** of the following questions : 3
- (1) Explain data frames with example.
 - (2) List out the data types in R language. Explain each datatype in detail.

(D) Answer Any **One** of the following questions : 5

- (1) Explain List with example. Write a program to name List elements in R.
- (2) Explain R Array Function and Create Array in R.

5 Attempt the following : 14

(A) Answer the following short questions : (All Compulsory) 4

- (1) Syntax for calculating mean?
- (2) _____ Function to get the list of all the packages installed.
- (3) For loop repeats a statement or group of statements while a given condition is true. (True/false)
- (4) What is dev.off()?

(B) Answer Any **One** of the following questions : 2

- (1) `sal <- max(dats$salary)`
`print(sal)`. What will be the output?
- (2) What are R packages?

(C) Answer Any **One** of the following questions : 3

- (1) Write a program to create a pie-chart using input vector and labels.
- (2) Explain for loop with example.

(D) Answer Any **One** of the following questions : 5

- (1) Explain Functions in R and its types with examples.
- (2) Explain reading data from files in R. Write a program to read a .csv file and check the number of columns and rows.