S.No. : 152

BAI 3502

No. of Printed Pages : 04

Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 33709 Roll No.

B. Tech. Examination 2023-24

(Odd Semester)

CONCEPTS OF DATA SCIENCE WITH PYTHON

Time : Three Hours] *[Maximum Marks : 60*

Note :– Attempt all questions.

SECTION – A

1. Attempt all parts of the following : 8×1=8

(a) What is data science?

(b) Describe data set with example.

(c) Why we use data visualization?

(d) What is the significance of module in Python?

(e) Write python function to perform linear search.

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(f) What is the difference between python array and lists.

(g) Differentiate fruitfull function and void functions.

(h) Mention five benefits of using python.

SECTION – B

2. Attempt any two parts of the following : 2×6=12

(a) What is the purpose of data classification? Why data classification is important?

(b) Explain different type of operators define in Python.

(c) Discuss list data structure of Python. Explain various in-build method of list with suitable example of each.

(d) Discuss file I/O in Python. How to perform open, read, write and close into a file?

SECTION – C

Note :– Attempt all questions. Attempt any two parts from each question. 5×8=40

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3. (a) Discuss the application of data science with examples.

(b) Why data exploration is important? How data exploration works?

(c) What is descriptive statistics? Describe the types of descriptive statistics. Also differentiate with inferential statics.

4. (a) Describe the programming cycle for python in detail.

(b) Write a program to check an input year is leap year or not.

(c) Discuss why python is interpreted language. Explain history and feature of python while comparing python version 2 and 3.

5. (a) Compare list and dictionary data structure. Explain various dictionary method with suitable example.

(b) Explain tuples and unpacking sequences in python data structure.

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(c) Write a python program to change a given string to a new string where the first and last chars has been exchanged.

6. (a) What are file input and output operations in python programming?

(b) There is a file named Input.Txt. Enter some positive numbers into the file named Input.Txt. Read the contents of the file and if it is an odd number write to ODD.TXT and if the number is even. Write it to Even.Txt.

(c) Write a python program to construct the following pattern, using nested for loop :

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