JC-003-1036003   Seat No. _____

B. C. A. (Sem. VI) (CBCS) (W.I.F. 2016) Examination

August – 2019

CS - 33 : Programming in Python

(New Course)

Faculty Code : 003

Subject Code : 1036003

Time : $2\frac{1}{2}$ Hours]   [Total Marks : **70**

1   **(A)**   Answer the following :   **4**

    (1)   Python relies on indentation using white space to define scope of functions, loops and classes (True/False)

    (2)   Elements can be add in list using _____ method.

    (3)   _____ statement causes loop to skip the remainder of its body and immediately retest its condition prior to reiterating.

    (4)   A _____ is a sequence of immutable python objects.

   (B)   Answer in brief : (Any **One**)   **2**

    (1)   Define List

    (2)   Which are membership operators in python.

   (C)   Answer in detail : (Any **One**)   **3**

    (1)   Explain recursion with example.

    (2)   What is dictionary in python. Explain with example

   (D)   Write a note on : (Any **One**)   **5**

    (1)   Write a note on module.

    (2)   What is function? Explain pass by value and pass by reference

2   (A)   Answer the following :   **4**

(1)   _____ exception is raised when division or modulo by zero takes places.

(2)   The _____ block lets you execute code, regardless of result of try and except blocks

(3)   All classes have a function called _____ which is always executed when an object is created.

(4)   The _____ parameter is a reference to the class itself, and is used to access variables that belongs to the class.

(B)   Answer in brief : (Any **One**)   **2**

(1)   Define encapsulation

(2)   Define class

(C)   Answer in detail : (Any **One**)   **3**

(1)   What is method overloading?

(2)   Explain exception handling in python

(D)   Write note on : (Any **One**)   **5**

(1)   Write an algorithm for binary search.

(2)   What is inheritance? Explain with example

3   (a)   Answer the following :   **4**

(1)   _____ module of matplotlib package is necessary to import for plotting.

(2)   The graphical representation of plotting is displayed by _____ function.

(3)   _____ is a method for efficiently solving problems that exhibit the characteristics of overlapping subproblems and optimal substructure.

(4)   In _____ approach, a problem is divided into smaller problems, then solved independently and finally smaller problem solutions are combined into a solution for large problem.

(B) Answer in brief : (Any **One**)   **2**

    (1) Define overlapping subproblem

    (2) What is 0/1 knapsack problem,

(C) Answer in detail : (Any **One**)   **3**

    (1) Explain divide and conquer approach.

    (2) Implement fibonacii series using dynamic programming.

(D) Write a note on : (Any **One**)   **5**

    (1) Explain 0/1 knapsack problem using dynamic programming.

    (2) Explain plotting using pylab.

4 (a) Answer the following :   **4**

    (1) _____ function matches a pattern at the start of the string.

    (2) _____ function replaces one or many matches with string.

    (3) _____ method is used to parse JSON to python.

    (4) _____ is a sequence of characters that form a search pattern.

(B) Answer in brief : (Any **One**)   **2**

    (1) match() VS search()

    (2) split() function with example

(C) Answer in detail : (Any **One**)   **3**

    (1) List metacharacters with its description

    (2) Explain following functions with example: findall(), search( ), sub( )

(D) Write a note on : (Any **One**) 5

    (1) Write a note on ElementTree module,

    (2) Demonstrate XML parser in python.

5 (A) Answer the following : 4

    (1) _____ is a process that used data mining and probability to forecast outcomes.

    (2) A _____ is a collection of related data that may be accessed individually or in combination.

    (3) _____ is a term that describes the large volume of data - both structured and unstructured.

    (4) Linear models are preferable when data set has more columns than rows or when problem is simple. (True/False)

(B) Answer in brief : (Any **One**) 2

    (1) What. is structured data?

    (2) What is predictive analytics?

(C) Answer in detail : (Any **One**) 3

    (1) How to deploy big data solutions?

    (2) Explain logistic regression.

(D) Write a note on : (Any **One**) 5

    (1) Which are the key phases to build a predictive model.

    (2) Write a note on panda Iibrary.

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