(6 pages)

Reg. No. : ..................................

Code No. : 10479 E    Sub. Code : CMCA 41

B.C.A. (CBCS) DEGREE EXAMINATION, APRIL 2023.

Fourth Semester

Computer Application — Core

PYTHON PROGRAMMING

(For those who joined in July 2021 onwards)

Time : Three hours          Maximum : 75 marks

PART A — (10 × 1 = 10 marks)

Answer ALL questions.

Choose the correct answer :

1.  In which language Python is written?

    (a)  Java               (b)  c#

    (c)  c++                (d)  c

2.  Which of the following is used in Python to create lists?

    (a)  ( )                (b)  [ ]

    (c)  { }                (d)  < >

3.  Numpy arrays can be _____.

    (a)  indexed           (b)  sliced

    (c)  iterated          (d)  all the mentioned

4.  Amongst which python library allows users to perform mathematical and logical operations on arrays

    (a)  SciPy             (b)  TensorFlow

    (c)  piTorch           (d)  NumPy

5.  In Python, _____ keyword is used to define a function.

    (a)  module            (b)  sub

    (c)  def               (d)  (c) or (b)

6.  What is the output of the following program?

    z = lambda x : x * x

    print(z(6))

    (a)  6                 (b)  36

    (c)  0                 (d)  error

7.  _____ is a data structure in which we store values as a pair of key and value.

    (a)  tuple             (b)  dictionary

    (c)  list              (d)  files

8.  The process of pickling in Python includes:

    (a)  conversion of a list into a data table

    (b)  conversion of a byte stream into Python object hierarchy

    (c)  conversion of a Python object hierarchy into byte stream

    (d)  conversion of a data table into a list

9.  What will be the output of the following Python code?

    class test:

        def_init_(self, a = "Hello World"):

            self.a = a

        def display(self):

            print(self.a)

    obj = test( )

    obj.display( )

    (a)  The program has an error because constructor can't have default arguments

    (b)  Nothing is displayed

    (c)  "Hello World" is displayed

    (d)  The program has an error display function doesn't have parameters

10.  What is the use of duck typing?

    (a)  More restriction on the type values that can be passed to a given method

    (b)  No restriction on the type values that can be passed to a given method

    (c)  Less restriction on the type values that can be passed to a given method

    (d)  Makes the program code smaller

PART B — (5 × 5 = 25 marks)

Answer ALL questions, choosing either (a) or (b).
Each answer should not exceed 250 words.

11.  (a)  Present any five comparisons between python and Java.

Or

    (b)  Devise detailed notes on bitwise operators and membership operators in python with examples.

12.  (a)  Examine pass and assert statements in python with examples.

Or

    (b)  Construct python program to check odd or even using command line arguments.

13. (a) What are lambda functions? Give syntax and examples.

Or

(b) How do you define a function in python? Present syntax and example for calling a function.

14. (a) Explain the use of loops with dictionaries in python.

Or

(b) How do you open and close files in python?

15. (a) Designate super( ) in Python. Give examples

Or

(b) Describe duck typing philosophy of python.

PART C — (5 × 8 = 40 marks)

Answer ALL questions, choosing either (a) or (b)
Each answer should not exceed 600 words.

16. (a) Formulate detailed notes on ranges and tuples in python with examples.

Or

(b) Propose concepts behind

(i) data types in python

(ii) memory management in python.

17. (a) Generalize the following with examples

(i) creation of arrays

(ii) indexing and slicing arrays.

Or

(b) Describe the following in python with examples

(i) if ... elif statement

(ii) break and continue statements.

18. (a) Explain how to create and access lists with examples.

Or

(b) Describe recursive functions with a sample python program.

19. (a) Discuss creation and accessing of dictionaries with syntax and example.

Or

(b) Analyze the following

(i) seek( ) and tell( )

(ii) pickle in python

20. (a) Illustrate implementation of inheritance in python.

Or

(b) Exemplify operator overloading in python.

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