

2020

COMPUTER SCIENCE — HONOURS

Paper : DSE-B-2

(Programming with Python)

Full Marks : 50

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

Answer **question no. 1** and **any four** questions from the rest.

1. Answer **any five** questions : 2×5
- (a) What is the role of the function zip?
 - (b) How can we access the second last element of a string?
 - (c) Explain how string formatting works in Python.
 - (d) What is the role of `-int-` function?
 - (e) How the break and continue statement works in Python?
 - (f) Differentiate between lists and tuples in Python.
 - (g) What is the functionality of hash () function in Python?
 - (h) How try-except block is used in Python for exception handling?
2. Explain the basic data types available in Python with example.
Create a list with name of rivers 'Godavari', 'Kaveri' and 'Krishna'. Add a new element with value 'Narmada'.
Change the first element's name to 'Tapti'. 4+2+2+2
3. Write a Python program which takes input from user and calculates area and perimeter of a circle.
Explain how you can create a string with the value "Let's go".
Explain how range works with an example. 4+2+4
4. Create a string with the value 'Hello world'. Print the string from 2nd character to 4th character.
Reverse the string with proper parameters without using loop. How the read function works? Explain the role of seek function in context to read. 2+2+2+2+2
5. What is the use of lambda expression? Explain how the map function works. Explain different access modifiers that are available in Python. Create a simple function which takes a string as an input and returns its length. 2+2+3+3

Please Turn Over

6. (a) Write a program in Python to display the pattern.

```
      *
     * *
    * * *
   * * * *
```

(b) Give a code snippet, which gives the number of times 'a' occurs in a tuple. 5+5

7. (a) What is module in Python? Explain how you can use the module in your program with an example.

(b) Explain Python Built-in-Exceptions. 5+5

8. (a) What is a variable? How is it created and assigned a value of a particular datatype?

(b) What will be the output of the program segment? Explain.

```
C = a<<2; #240 = 11110000
```

```
Print "Line 5-value of C is", C
```

5+5
