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44 (5) PRPY BCA-HE-5046

2021

(Held in 2022)

PROGRAMMING IN PYTHON

Paper : BCA-HE-5046

Full Marks : 60

Time : Three hours

The figures in the margin indicate full marks for the questions.

1. Answer the following questions as directed:
1×7=7

(a) Error in a program which does not cause a program to crash but causes an unexpected result is called _____.
(Fill in the blank)

(b) _____ is a graphical method for explaining the logic of making decision in tabular format. (Fill in the blank)

Contd.

(c) In _____, the modules are designed individually and are then integrated together to form a complete algorithmic design.

- (i) top-down approach
- (ii) bottom-up approach
- (iii) Both of the above
- (iv) None of the above

(Choose the correct option)

(d) Each step of an algorithm is unique and should be self explanatory.

(State true or false)

(e) In Python, the statements in a nested block are all indented the same number of tabs or spaces. *(State true or false)*

(f) The _____ built-in function returns a sorted list of strings containing the names defined by a module.

(Fill in the blank)

(g) The self parameter is a reference to the current instance of the class.

(State true or false)

2. Define the following terms :

2×4=8

(a) Debugging

(b) Documentation

- (c) Python shell
- (d) Default argument

3. Answer **any three** of the following questions : 5×3=15

(a) What are the differences between algorithm and flowchart ?

(b) What is Python interpreter ? What is the difference between intermediate mode and script mode ?

(c) What are lists in Python? What is the difference between Strings and lists in Python ?

(d) Write a recursive function to check if a string is a palindrome or not.

(e) Briefly explain multiple assignments in Python with suitable example.

4. Answer **any three** of the following questions : 10×3=30

(a) Explain top-down and bottom-up approach in programming.

- (b) Write Python statements to perform the following tasks :
- (i) To display 2-digit positive even numbers
 - (ii) To display 2nd and 3rd element of a list using slicing operator
 - (iii) To capitalize first letter of each word in a string
 - (iv) To compute the sum of the ASCII codes of all the characters in a string
 - (v) To define a function called times, which returns the product of its two arguments
- (c) Briefly explain *any five* built-in functions that are used in lists. Give example.
- (d) Give brief description of the following keywords : import, break, pass, true, finally.
- (e) Write a program to implement linear and binary search on lists.
- (f) Write a program to create Stack Class and implement all its methods.