BRAINWARE UNIVERSITY

Term End Examination 2023-2024
Programme – Dip.RA-2022
Course Name – Python Programming
Course Code - ECOE401B
(Semester IV)

Full Marks : 60   **Time : 2:30 Hours**

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A
(Multiple Choice Type Question)   1 x 15=15

1. *Choose the correct alternative from the following :*

(i) Asking the year Python first released:
   a) 1989   b) 1991
   c) 1995   d) 2000

(ii) Cite who is the creator of Python
   a) Guido van Rossum   b) James Gosling
   c) Larry Page   d) Linus Torvalds

(iii) Express what is the output of the following code snippet: print("Hello" + "World")
   a) Hello World   b) HelloWorld
   c) Hello+World   d) Error

(iv) Discover what is the output of the following code snippet: x = 5 if 2 > 3 else 10; print(x)
   a) 5   b) 10
   c) Error   d) Mention answers are not appropriate

(v) Research which of the following methods is used to find the length of a string in Python
   a) length()   b) size()
   c) len()   d) count()

(vi) Summarize which method is used to remove leading and trailing whitespace from a string in Python
   a) strip()   b) trim()
   c) remove()   d) clean()

(vii) Dramatize what is a tuple in Python
   a) A mutable sequence of elements   b) An immutable sequence of elements
   c) A key-value pair collection   d) A sorted collection of elements

(viii) Illustrate which method is used to remove elements from a tuple in Python
   a) pop()   b) remove()
   c) delete()   d) There is no method to remove elements from a tuple

(ix) Produce what is a dictionary in Python
    a) A mutable sequence of elements   b) An immutable sequence of elements
    c) A key-value pair collection   d) A sorted collection of elements

(x) Examine the output of the following code snippet: import math; print(math.sqrt(16))
    a) 4   b) 16
    c) Error   d) Mention answers are not appropriate

(xi) Describe package in Python
    a) A built-in function   b) A file containing Python code that can be executed
    c) A collection of modules   d) A loop

(xii) Read the purpose of the write() method in Python file objects.
    a) It writes data to a file   b) It reads data from a file
    c) It closes a file   d) It prints output to the screen

(xiii) Retell how do you raise a custom exception in Python
    a) Using the raise keyword   b) Using the throw keyword
    c) Using the except keyword   d) Using the custom keyword

(xiv) Visualize the purpose of the assert statement in Python.
    a) To handle exceptions   b) To raise custom exceptions
    c) To check if a condition is true and raise an exception if it is false   d) To terminate the program

(xv) Calculate what is a class in Python
    a) A blueprint for creating objects   b) A built-in function
    c) A logical error   d) A data type

Group-B
(Short Answer Type Questions)
3 x 5=15

2. Illustrate how setting up the path in Python helps in running scripts smoothly across different environments.   (3)
3. Report how can you access values in dictionaries using keys in Python. Provide examples demonstrating different methods of accessing values.   (3)
4. Discuss the scope of variables in Python, including global and local variables. Explain how variable scope affects the accessibility and lifetime of variables within functions.   (3)
5. Tell the concept of user-defined exceptions in Python. Explain how custom exceptions can be defined and raised in Python programs.   (3)
6. Report how Python handle string concatenation and repetition, with examples demonstrating both operations.   (3)

OR

Originate the significance of escape characters in Python strings, with examples of commonly used escape sequences and their purpose.   (3)

Group-C
(Long Answer Type Questions)
5 x 6=30

7. Compare the concept of operator precedence in Python. Provide examples demonstrating how Python determines the order of operations in complex expressions.   (5)
8. Anticipate exploring various string methods available in Python for common tasks such as searching, replacing, and manipulating case. Provide examples of each method.   (5)
9. Hypothesize about the process of adding, modifying, and deleting key-value pairs in dictionaries. Provide examples demonstrating the usage of relevant methods.   (5)
10. Enumerate various methods for reading and writing files in Python. Provide examples demonstrating the usage of methods such as read(), readline(), write(), and writelines().   (5)

11. Act to explore the concept of inheritance in Python's object-oriented programming. Explain (5)
how inheritance enables code reusability and the implementation of parent-child class
relationships.

12. Compile the discussion of the concept of nested lists in Python. Provide examples to (5)
demonstrate how nested lists are defined and accessed.

OR

Compose an explanation of the difference between shallow and deep copy operations on (5)
lists in Python. Provide examples illustrating the behavior of both types of copies.

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