Jharkhand University of Technology, Ranchi

Diploma 3rd Semester Examination, 2024 (NEP)

Subject : Advanced Python Programming   **Subject Code : CSE 301**

Time Allowed : 3 Hours   **Full Marks : 70**

Answer in your own words.
Answer five questions in which Question No. 1 *is compulsory.*
The figures in the margin indicate full marks.
All questions carry equal marks.

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1. Select the correct answer: 2×7=14

    (i) Which operation is valid for Python sets?

    (a) set1 + set2   (b) set1 | set2

    (c) set1 * set2   (d) set1 ** set2

    (ii) Which of the following is the correct way to import all names from a module?

    (a) import module.*   (b) from module include *

    (c) from module import *   (d) import all from module

    (iii) In turtle graphics, which method is used to fill a shape with color?

    (a) fill()   (b) begin_fill()

    (c) color_fill()   (d) start_fill()

    (iv) What is the purpose of ____init____.py file in a package?

    (a) To initialize the package   (b) To make the directory in a package

    (c) To define functions within packages   (d) To make the directory in a module

    (v) Which method would you use to get all values from a dictionary without their keys?

    (a) dict.items()   (b) dict.values()

    (c) dict.keysf()   (d) dict.get()

    (vi) What is the default mode when opening a file in Python?

    (a) 'w'   (b) 'r'

    (c) 'a'   (d) 'rb'

    (vii) What is the primary purpose of the finally block in exception handling?

    (a) To handle specific exceptions

    (b) To execute code that must run regardless of exceptions

    (c) To raise exceptions

    (d) To define custom exceptions

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2. (a) Write a Python program to find the longest word in a list of strings. 7

(b) What is object serialization? Write a program to serialize and deserialize a Python object. 7

3. (a) Differentiate between built-in and user-defined exceptions in Python. Provide examples for both. 7

(b) Write a Python program that uses a try, except, and finally clause to handle a ZeroDivisionError. 7

4. (a) Explain the difference between a module and a package in Python. 7

(b) Explain the concept of intra-package references with an example. How does Python resolve package imports? 7

5. (a) What is module search path? Explain with an example how Python searches for a module. 7

(b) Create a user-defined module named 'calculator' with functions for basic arithmetic operations. Demonstrate different ways to import and use this module in another Python script. 7

6. (a) Write a Python program to read a text file and count the number of lines, words and characters in the file. 7

(b) Write a program using turtle graphics to draw a colorful pattern using loops. The pattern should include at least three different shapes with different colors. 7

7. Write short notes on *any four*: 3.5×4=14

(a) PIP package manager and its importance

(b) Properties of dictionary keys and their constraints

(c) Python Set operations .

(d) File handling modes and their applications

(e) Differences between text and binary files

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