

Code No. : 8078

Sub. Code : WCAM 13

M.C.A. (CBCS) DEGREE EXAMINATION,
NOVEMBER 2023.

First Semester

Computer Applications — Core

PYTHON PROGRAMMING

(For those who joined in July 2023 onwards)

Time : Three hours

Maximum : 75 marks

PART A — (15 × 1 = 15 marks)

Answer ALL the questions.

Choose the correct answer :

1. Which of the following is the correct way to concatenate two strings in Python?
 - (a) "Hello" . "World"
 - (b) "Hello" + "World"
 - (c) "Hello" – "World"
 - (d) "Hello" * "World"
7. _____ keyword is used to create a new object of a class in Python.
 - (a) instance
 - (b) new
 - (c) create
 - (d) object
8. What is the term used to describe the ability of a method to behave differently based on the object it is called on in Python?
 - (a) Inheritance
 - (b) Polymorphism
 - (c) Encapsulation
 - (d) Composition
9. How do you display text output in a terminal-based Python program?
 - (a) Using the print() function
 - (b) With the show() method
 - (c) By calling display_text()
 - (d) Using the input() function
10. How can you reverse a list my_list using slicing?
 - (a) my_list.reverse()
 - (b) my_list[::-1]
 - (c) my_list[::-1]
 - (d) my_list[0:-1]

2. How do you convert a float to an integer in Python?
 - (a) Using the int() function
 - (b) Using the float() function
 - (c) Using the str() function
 - (d) Using the complex() function
3. Which escape sequence is used to represent a newline character in strings?
 - (a) \t
 - (b) \r
 - (c) \n
 - (d) \w
4. Suppose list 1 is [3, 5, 25, 1, 3], what is the value of min(list1)?
 - (a) 3
 - (b) 1
 - (c) 5
 - (d) 25
5. Which keyword is used to define a function in Python?
 - (a) Define
 - (b) Function
 - (c) Def
 - (d) Func
6. What is the built-in function used to access the names in the current local namespace in Python?
 - (a) local()
 - (b) globals()
 - (c) namespace()
 - (d) localspace()

11. What is a DataFrame in Pandas?
 - (a) A table that can hold data of different types
 - (b) A ID labeled array
 - (c) A way to store images and videos
 - (d) A data visualization library
12. Which Matplotlib function is used to create a bar plot?
 - (a) plot_bar()
 - (b) create_bar()
 - (c) bar()
 - (d) draw_bars()
13. What is the primary database included with Django by default?
 - (a) SQLite
 - (b) MySQL
 - (c) PostgreSQL
 - (d) MongoDB
14. In a Django model, how do you specify a unique constraint on a field?
 - (a) By using the unique attributes
 - (b) By defining a special unique method
 - (c) By using the unique() function
 - (d) Django does not support unique constraints

15. In Django, what is an "app"?
- (a) A mobile application developed with Django
 - (b) A single Django project
 - (c) A reusable component that can be included in multiple projects
 - (d) A web page

PART B — (5 × 4 = 20 marks)

Answer ALL the questions, choosing either (a) or (b).

16. (a) Write about information processing.
- Or
- (b) Explain with examples of numeric data types in Python.
17. (a) How to access characters in Python?
- Or
- (b) Explain the concept of recursive functions in Python.
18. (a) Explain comparison operator and their corresponding methods in Python.
- Or
- (b) Explain the methods used to change the attributes of a window.

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19. (a) Discuss the Matplotlib architecture.
- Or
- (b) How to create a pie chart in Python using a library like Matplotlib?
20. (a) List the steps to build a Django application.
- Or
- (b) How to you retrieve objects in Django?

PART C — (5 × 8 = 40 marks)

Answer ALL the questions, choosing either (a) or (b).

21. (a) Write a Python program that calculates a student's grade, assigning 'A' for scores above 90, 'B' for scores between 80 and 90, and so on, based on a set of marks entered by the user.
- Or
- (b) Explain the 'for' and 'while' loop statements in Python.
22. (a) Discuss the various operations that can be performed on a Dictionary and Lists with an example program.
- Or
- (b) Explain the process of reading and writing text in a file using Python.

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23. (a) Demonstrate with an suitable code for polymorphism in Python.
- Or
- (b) Illustrate command buttons and responding to events.
24. (a) Explain the steps for adding elements to charts in data visualization.
- Or
- (b) Demonstrate how to perform array manipulation in Python.
25. (a) Summarize the process of designing a data scheme in Django.
- Or
- (b) Demonstrate about query sets and managers functions in Django.