KAMARAJ COLLEGE (Autonomous)

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(Affiliated to Manonmaniam Sundaranar University, Tirunelveli)
THOOTHUKUDI – 628 003

5 Pages **Reg. No: ……**

Question. Code No : 24O0142 **Sub Code : 24PMCA12**

PG Degree - End Semester Examinations, November 2024

First Semester

MCA

Major - ADVANCED PYTHON PROGRAMMING

(For those who joined in July 2024 onwards)

Time : 3Hours **Maximum : 75 Marks**

PART A – (10 × 1 = 10 Marks)

Answer ALL Questions
Choose the correct answer :

1. Python does not support _____ data type.
   (a) char (b) float
   (c) string (d) complex
2. Python uses _____ to form a block of code.
   (a) Begin…end (b) (…..)
   (c) {…..} (d) indentation
3. The function find() returns _____, if sub string is not present in the string.

(a) 0 (b) 1
(c) -1 (d) inf

4. Predict the output of the following PYTHON code.
>>spam="eggs" >>print(spam*3)
(a) spamspamspam (b) eggseggseggs
(c) spam spam spam (d) eggs eggs eggs

5. The _____ of an instance variable is the statements in the body of the method where it is introduced.
(a) lifetime (b) scope
(c) range (d) existence

6. _____ is the process of converting an object to a form that can be saved to permanent file storage.
(a) Instantiating (b) Embedding
(c) Pickling (d) Polymorphing

7. The _____ attribute is used for getting the *axes* of an array.
(a) ndim (b) size
(c) shape (d) length

8. The _____ layer in MATPLOTLIB consists of an interface called *pyplot*?
(a) Scripting (b) Artist
(c) Backend (d) Frontend

9. Which of the following package supports a back-end server side web framework?
(a) Pandas (b) Matplotlib
(c) Django (d) NumPy

10. Which design pattern does Django follow?

(a) Model-View-Controller (MVC)
(b) Model-View-Presenter (MVP)
(c) Model-Template-View (MTV)
(d) Model-View-ViewModel (MVVM)

PART B - (5X5=25 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 250 words.

11. (a) Discuss on arithmetic expressions and type conversion.

(OR)

(b) Explain any one selection type statement with an example.

12. (a) Write any 5 built-in string handling methods and demonstrate with an example.

(OR)

(b) What are tuple and list? Which is more efficient and how?

13. (a) What are two-dimensional grids? Describe.

(OR)

(b) Explain what happens when a user clicks a command button in a fully functioning GUI program.

14. (a) Discriminate Indexing, Slicing and Iterating in an array with suitable examples.

(OR)

(b) How dataframes can be created and assigned with values? Describe.

15. (a) Describe Django Project MVT Structure.

(OR)

(b) What are Django Views? Describe its purpose with an example.

PART C – (5 × 8 = 40 Marks)

Answer ALL Questions choosing either (a) or (b).

Answer should not exceed 600 words.

16. (a) Write a detailed note on Numeric Data types and Character sets.

(OR)

(b) Differentiate between definite and conditional iterative statements with suitable examples.

17. (a) Develop a Python program to do the following:

i) to display the given string after removing vowels.

ii) to search a character in the given string using rfind() function.

(OR)

(b) How functions and modules can be created in Python? Distinguish them with an example.

18. (a) Write the Python code to implement banking system that allows the savings bank customers to do the following:
    i. Deposit
    ii. Withdraw
    iii. Getting the balance amount

(OR)

(b) Write a GUI-based program that allows the user to convert temperature values between degrees Fahrenheit and degrees Celsius.

19. (a) Reveal Data Visualization with Matplotlib.

(OR)

(b) Describe how elements can be added to the chart.

20. (a) How are Django Models can be created? Explain with an example.

(OR)

(b) Demonstrate the creation of a Django admin interface.