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Reg. No. :

Question Paper Code : 10842

M.C.A. DEGREE EXAMINATIONS, APRIL/MAY 2023

First Semester

MC 4103 — PYTHON PROGRAMMING

(Regulations 2021)

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

PART A — (10 × 2 = 20 marks)

1. Python is an interpretative scripting language. Justify.
2. List some logical operators available in python.
3. Generalize the uses of python module.
4. How will you create a list in python? Illustrate the use of negative indexing of list with example.
5. Enumerate different file opening modes in python.
6. How multiple exceptions are handled in python?
7. Write any two python frameworks for web application development.
8. How data processing can be done in panda library?
9. List the types of inheritance supported by python.
10. Define polymorphism? How it is achieved in python?

PART B — (5 × 13 = 65 marks)

11. (a) (i) Differentiate local and global scope in python. Explain it with a programming example for each. (7)
- (ii) Write the iterative and recursive approach for fibonacci series generation. (6)

Or

- (b) (i) Explain different looping statements supported by python. Give suitable example. (7)
- (ii) Illustrate the arithmetic operators in Python with an example. (6)
12. (a) (i) Analyse string slicing. Illustrate how it is done in python with example. (6)
- (ii) Write a python code to search a string in the given list. (7)

Or

- (b) (i) Differentiate mutable with immutable datatype in python. Explain each with one example. (7)
- (ii) Appraise the operations for dynamically manipulating dictionaries. (6)
13. (a) (i) Tabulate different modes for opening a file and explain the same. (8)
- (ii) Write down the syntax for reading and writing a file. Give suitable example. (5)

Or

- (b) (i) Discuss the use of format operator in file processing. (7)
- (ii) Differentiate error with exception. Write all the types of exception in python. (6)
14. (a) Write a python script using matplotlib lib library methods to visualize the relationship between the attributes of tips datanet using suitable plots (atleast 3). Write your inferences from the plots. (13)

Or

- (b) Write a python script using plotly library methods to visualize the relationship between the attributes of tips datanet using suitable plots (atleast 3). Write your inferences from the plots. (13)

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15. (a) (i) Define a class with a generator which can iterate the numbers which are divisible by 7 between a given range of 0 and n. (8)
- (ii) How to assign values for the class attributes at run time? Explain with an example. (5)

Or

- (b) (i) What is inheritance? Explain all types with example. (8)
- (ii) Explain class and static variables in python with programming example. (5)

PART C — (1 × 15 = 15 marks)

16. (a) Write a python code for the following.
- (i) Read all lines in the input file
- (ii) Count the number of words in text file
- (iii) Copy the contents of a one file into another
- (iv) Read the contents of file in reverse order (15)

Or

- (b) The telecom company XYZ updates mobile data servicing plans/schemes. For their different category of customers. Write object oriented python script (s) using suitable inheritance and polymorphism features to provide better services to their customer. Make necessary assumptions. (15)