



Name:

Enrolment No:

UPES

End Semester Examination, May 2024

Course: Programming for Analytics

Semester: IV

Program: MBA (Business Analytics)

Course Code: DSBA8004

Time : 03 hrs.

Max. Marks: 100

Instructions:

SECTION A
10Qx2M=20Marks

S. No.		Marks	CO
Q 1 i	What is the primary purpose of installing Python? A) To create graphical user interfaces B) To develop web applications C) To execute Python programs D) To analyze big data	2	CO1
ii	Which of the following statements about Python operators is true? A) Operators cannot be overloaded in Python B) Python supports only unary and binary operators C) Operators perform operations on operands D) Operators in Python are case-sensitive	2	CO1
iii	In Python, which of the following is an arithmetic operator? A) && B) ++ C) ** D) //	2	CO1
iv	What is the output of the expression <code>10 > 5</code> in Python? A) True B) False C) 10 D) 5	2	CO1
v	Which logical operator in Python returns True if both operands are True? A) or B) not C) and D) xor	2	CO1
vi	What is the data type of the variable 'x' in Python if <code>x = 5.0</code> ? A) Integer B) Float C) String D) Boolean	2	CO1

vii	Which operator is used for floor division in Python? A) // B) / C) % D) *	2	CO1
viii	Which of the following is a valid variable name in Python? A) 2var B) my_var C) \$var D) variable-name	2	CO1
ix	What does the '==' operator do in Python? A) Checks if two variables refer to the same object B) Checks if two variables are equal in value C) Checks if two variables have different values D) Assigns a value to a variable	2	CO1
x	What is the output of the expression 2 + 3 * 4 in Python? A) 14 B) 20 C) 24 D) 5	2	CO1

SECTION B
4Qx5M= 20 Marks

Q 2	Differentiate between the == and is comparison operators in Python. Give examples demonstrating their usage and differences.	5	CO1
Q 3	Define a list data structure in Python. Provide at least three advantages of using lists over other data structures.	5	CO2
Q 4	Write Python code to create an empty dictionary and then add three key-value pairs to it. Explain the significance of dictionaries in Python data structures.	5	CO3
Q 5	Discuss the importance of using packages in Python programming. Provide examples of at least two popular Python packages and describe their functionalities.	5	CO3

SECTION-C
3Qx10M=30 Marks

Q 6	Write Python code to perform arithmetic operations (addition, subtraction, multiplication, division, and modulo) on two variables. Explain each operation with suitable examples.	10	CO2
Q 7	Compare and contrast the 'if-else' and 'if-elif-else' conditional structures in Python. Discuss scenarios where each structure would be more suitable, providing examples to illustrate your points.	10	CO2
Q 8	Describe the difference between mutable and immutable data types in Python. Provide examples of each and discuss their implications in programming. OR Compare and contrast arrays and linked lists as data structures. Discuss their strengths and weaknesses in terms of memory usage and performance.	10	CO2

SECTION-D
2Qx15M= 30 Marks

Q 9	Write a Python function to sum all the numbers in a list. OR Define the concept of functions in Python programming. Discuss the advantages of using functions to organize code and facilitate code reuse. Provide examples of built-in and user-defined functions in Python, highlighting their differences and similarities.	15	CO3
Q 10	Write a program to print the following pattern. <pre style="text-align: center;">* * * * * * * * * * * * * * *</pre>	15	CO3