

B.C.A. Sem.-5 Examination

CC-302

Python Programming

March-2025

Time : 2-30 Hours]

[Max. Marks : 70

- QUESTION - 1 Write the following.**
- (i) Explain five key features of Python that make it a popular programming language. 07
- (ii) Explain the use of membership operator and the identity operator in Python. 07
- OR
- (i) Explain bytes, bytearray, sets, frozenset sequence data type in detail with example. 07
- (ii) Discuss any three different flavors of Python. For each flavor, explain its purpose and highlight one key advantage it offers compared to standard CPython. 07
- QUESTION - 2 Write the following.**
- (i) Define a list in Python and explain at least five commonly used list methods. Write example code that demonstrates the use of these methods with appropriate explanations. 07
- (ii) Discuss the array module in Python and how it differs from lists. Explain at least four methods available for arrays. 07
- OR
- (i) What is a tuple in Python? Discuss the key differences between lists and tuples. Explain any three tuple methods with example. 07
- (ii) Define a function in Python and explain the different types of function arguments. 07
- QUESTION - 3 Write the following.**
- (i) Explain instance variable and class variable in detail with example. 07
- (ii) What is Method Resolution Order (MRO) in Python? Explain how MRO works in the context of multiple inheritance. 07
- OR
- (i) Explain polymorphism in Python, distinguishing between method overloading and method overriding. 07
- (ii) Discuss the self and super keywords in Python with proper example. 07
- QUESTION - 4 Write the following.**
- (i) What are standard libraries in Python? List at least three commonly used standard libraries and briefly describe their primary functionalities. 07
- (ii) What do mean by exception? Explain try, except, else and finally block to handle exceptions with proper example. 07
- OR
- (i) Explain how to connect to a MySQL database using Python. What library is typically used for this purpose? 07
- (ii) Discuss the datetime module in Python. Explain strftime() method in detail with example. 07

(P.T.O)

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QUESTION - 5 Attempt any seven out of twelve.

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- 1 Which of the following is the correct syntax for an if statement in Python?
a. if x > 10 then: b. if (x > 10): c. if x > 10: d. Both b & c
- 2 The assert statement can be used to verify if a condition is true, and if it is not, it raises an AssertionError. **(T/F)**
- 3 What will be the output of the following code?
def add(x, y):
 return x + y
result = add(3, 5)
print(result)
a. 3 b. 5 c. 8 d. None
- 4 The continue statement in a loop will stop the current iteration and move to the next iteration. **(T/F)**
- 5 Which of the following is NOT a control statement in Python?
a. if b. else c. elif d. case
- 6 id() method prints memory address of the object. **(T/F)**
- 7 What is the output of the following code?
f = lambda x: x * 2
print(f(5))
a. 5 b. 10 c. 2 d. Error
- 8 The finally block in a try-except structure is executed only if an exception is raised. **(T/F)**
- 9 Python automatically handles garbage collection to free up memory that is no longer in use. **(T/F)**
- 10 A switch statement is natively available in Python. **(T/F)**
- 11 A function in Python can have multiple return statements, but only one will execute. **(T/F)**
- 12 What is the purpose of the break statement in a loop?
A) To skip the current iteration
B) To exit the loop completely
C) To pause the execution of the loop
D) To continue with the next iteration