

**SSR DEGREE COLLEGE (AUTONOMOUS) NIZAMABAD**  
**SEM – II INTERNAL II AI/ML**  
**(QUESTION BANK)**  
**SUBJECT : PYTHON PROGRAMMING**

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**1. Which of the following is the correct way to create a list in Python?**

- A) `list = (1, 2, 3)`
- B) `list = [1, 2, 3]`
- C) `list = {1, 2, 3}`
- D) `list = <1, 2, 3>`

**Answer:**  B) `list = [1, 2, 3]`

**2. What is the output of the following code?**

```
lst = [1, 2, 3, 4]
print(lst[2])
```

- A) 1
- B) 2
- C) 3
- D) 4

**Answer:**  C) 3

**3. Which of the following methods adds an element at the end of a list?**

- A) `append()`
- B) `insert()`
- C) `extend()`
- D) `add()`

**Answer:**  A) `append()`

**4. What will the following code output?**

```
lst = [1, 2, 3]
lst.insert(1, 5)
print(lst)
```

- A) `[5, 1, 2, 3]`
- B) `[1, 5, 2, 3]`

- C) [1, 2, 3, 5]
- D) [1, 2, 5, 3]

**Answer:**  B) [1, 5, 2, 3]

**5. Which of the following is a correct way to create a tuple?**

- A) t = [1, 2, 3]
- B) t = (1, 2, 3)
- C) t = {1, 2, 3}
- D) t = <1, 2, 3>

**Answer:**  B) t = (1, 2, 3)

**6. Tuples in Python are:**

- A) Mutable
- B) Immutable
- C) Dynamic
- D) None of the above

**Answer:**  B) Immutable

**7. How can you access the third element of a tuple t = (10, 20, 30, 40)?**

- A) t[3]
- B) t[2]
- C) t(2)
- D) t[4]

**Answer:**  B) t[2]

**8. Which of the following correctly defines a Python dictionary?**

- A) d = [1: 'a', 2: 'b']
- B) d = {1: 'a', 2: 'b'}
- C) d = (1: 'a', 2: 'b')
- D) d = <1: 'a', 2: 'b'>

**Answer:**  B) d = {1: 'a', 2: 'b'}

**9. In a dictionary, data is stored in the form of:**

- A) Key-value pairs
- B) Indexed elements
- C) Sequential elements
- D) None of the above

**Answer:**  A) Key-value pairs

**9. Which mode is used to open a file for writing in Python, creating the file if it doesn't exist?**

- A) 'r'
- B) 'w'
- C) 'a'
- D) 'x'

**Answer:**  B) 'w'

**10. What does the following code do?**

```
with open('data.txt', 'r') as f:  
    content = f.read()
```

- A) Writes content to data.txt
- B) Reads the entire content of data.txt into the variable content
- C) Appends content to data.txt
- D) Deletes data.txt

**Answer:**  B) Reads the entire content of data.txt into the variable content

**11. Which exception is raised when dividing a number by zero in Python?**

- A) ValueError
- B) ZeroDivisionError
- C) TypeError
- D) IndexError

**Answer:**  B) ZeroDivisionError

**12. What is the purpose of a try block in Python?**

- A) To define a function
- B) To execute code that might raise an exception
- C) To handle file operations only
- D) To end a loop

**Answer:**  B) To execute code that might raise an exception

**13. Which keyword is used to handle exceptions in Python?**

- A) catch
- B) except
- C) error
- D) finally

**Answer:**  B) except

**14. Which of the following keywords is used to define a class in Python?**

- A) `function`
- B) `class`
- C) `object`
- D) `def`

**Answer:**  B) `class`

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**15. Which of the following correctly creates an object of a class `Person`?**

- A) `obj = Person`
- B) `obj = Person()`
- C) `obj = new Person()`
- D) `obj = create Person()`

**Answer:**  B) `obj = Person()`

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**16. In Python OOP, the `__init__()` method is used for:**

- A) Destroying an object
- B) Inheriting a class
- C) Initializing a newly created object
- D) Deleting a class

**Answer:**  C) Initializing a newly created object

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**17. What is `self` in Python classes?**

- A) A keyword to create a new class
- B) A reference to the current instance of the class
- C) A variable to store class methods
- D) A function to initialize the class

**Answer:**  B) A reference to the current instance of the class

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**18. Which of the following is an example of inheritance in Python?**

- A) `class Child(Parent):`
- B) `class Child:`
- C) `def Parent():`
- D) `class Parent(Child):`

**Answer:**  A) `class Child(Parent):`

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## 19. What is the output of the following code?

```
class Test:
    x = 10
print(Test.x)
```

- A) 0
- B) 10
- C) None
- D) Error

**Answer:**  B) 10

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## 20. Polymorphism in Python allows:

- A) Objects of different classes to be treated as objects of a common superclass
- B) Multiple variables in a class
- C) Inheriting multiple classes
- D) Hiding private variables

**Answer:**  A) Objects of different classes to be treated as objects of a common superclass

## II. Fill in the Blanks

1. A Python list is \_\_\_\_\_, which means its elements can be modified after creation.  
**Answer:** mutable
2. A tuple in Python is \_\_\_\_\_, so its elements cannot be changed once defined.  
**Answer:** immutable
3. In a dictionary, data is stored in the form of \_\_\_\_\_ pairs.  
**Answer:** key-value
4. The method \_\_\_\_\_() can be used to add a new element to the end of a list.  
**Answer:** append

5. To access the value associated with a key 'name' in a dictionary d, we write  
d[\_\_\_\_\_].  
**Answer:** 'name'
6. A Python dictionary stores data in \_\_\_\_\_ pairs.  
**Answer:** key-value
7. To create an empty dictionary, we use \_\_\_\_\_.  
**Answer:** {}
8. The method \_\_\_\_\_() returns all the keys of a dictionary.  
**Answer:** keys
9. To open a file in Python, we use the \_\_\_\_\_() function.  
**Answer:** open
10. The mode 'r' is used to \_\_\_\_\_ a file.  
**Answer:** read
11. To handle errors that may occur during program execution, we use \_\_\_\_\_ blocks.  
**Answer:** try-except
12. If a file operation fails and is not handled, Python raises an \_\_\_\_\_.  
**Answer:** exception
13. A class in Python is defined using the \_\_\_\_\_ keyword.  
**Answer:** class
14. The \_\_\_\_\_ method is called automatically when a new object of a class is created.  
**Answer:** \_\_init\_\_
15. Variables that belong to a class and are shared by all objects are called \_\_\_\_\_ variables.  
**Answer:** class
16. The concept of restricting access to certain parts of an object is called \_\_\_\_\_.  
**Answer:** encapsulation
17. The ability of a function or method to take many forms, such as method overriding, is called \_\_\_\_\_.  
**Answer:** polymorphism
18. A constructor in Python is a special method used to \_\_\_\_\_ an object when it is created.  
**Answer:** initialize
19. An iterator in Python is an object that can be \_\_\_\_\_, returning one element at a time.  
**Answer:** traversed
20. The method \_\_\_\_\_() returns the next item from an iterator.  
**Answer:** \_\_next\_\_

### III. Descriptive Questions

1. Explain file methods to read and write data?
2. Explain different file modes?
3. What is pickle module and explain its functions?
4. Explain about classes and objects ?
5. What is inheritance and types of inheritance?