Q1. What are the two latest user-defined exception constraints in Python 3.X?

Ans: -
The two latest user-defined exception constraints in Python 3.X are123:

All exceptions must be derived from the BaseException class or one of its subclasses. This means you cannot create an exception that does not inherit from the built-in exception hierarchy.
The use of the raise and assert statements to raise exceptions.

Q2. How are class-based exceptions that have been raised matched to handlers?

Ans: -
Class-based exceptions that have been raised are matched to handlers based on the class hierarchy of the exception classes45. When an exception is raised, Python checks if the exception matches the exception named in the except clause. If the exception is a class, it will match if the exception is an instance of the class or an instance of a subclass thereof.

Q3. Describe two methods for attaching context information to exception artefacts.

Adding Context Information as an Attribute: You can create a custom exception class that inherits from the base Exception class and add additional attributes to store context information.

Modifying the Exception Message: You can include context information directly in the exception message when raising the exception.

Q4. Describe two methods for specifying the text of an exception object's error message.

Ans: -
Using the str Function: You can use the str function to get the string representation of an exception.
Raising a New Exception with a Custom Message: You can raise a new exception and specify the error message at the time of raising.

Q5. Why do you no longer use string-based exceptions?

Ans: -
Before Python 1.5, standard exceptions were implemented as strings. However, this became limiting as it did not allow for exceptions to have any relationships to each other. With the advent of exception classes in Python 1.5, all standard exceptions are now classes. String-based exceptions are less flexible and more prone to errors compared to class-based exceptions and hence are no longer used.