



Seat No. : \_\_\_\_\_

# NG-104

November-2025

BS (BCA), Sem.-V

DSC-C-BCA-352 T : Problem Solving Using Python

(NEP-2020)

Time : 2:00 Hours]

[Max. Marks : 50

1. Answer the following :
  - (1) Discuss : Flavors of Python 5
  - (2) Explain Identity operators in detail. 5

**OR**

  - (1) Explain Pass and Assert statement with suitable example. 5
  - (2) Explain memory management and garbage collection concepts in python. 5
2. Answer the following :
  - (1) What is an array ? Explain the advantages of using arrays in Python. 5
  - (2) Explain Keyword arguments giving suitable example. 5

**OR**

  - (1) How can we create lists in Python ? Also explain the use of range() function while creating a list. 5
  - (2) What is a dictionary ? Explain any two operations that can be performed on a dictionary. 5
3. Answer the following :
  - (1) Explain the concept of class and self variable in detail. 5
  - (2) What is inheritance ? Explain different types of inheritance. 5

**OR**

  - (1) Discuss : Exception handling mechanism in detail. 5
  - (2) Explain : Method Resolution Order in detail. 5
4. Answer the following :
  - (1) Explain the following methods giving suitable example :  
execute(), commit(), connect() 5
  - (2) What is dataframe ? How can we create dataframe from excel worksheet ? 5

**OR**

  - (1) Discuss : Series in Pandas. 5
  - (2) Explain the concept of grouping and aggregating data in detail. 5

5. Answer the following : [Any Ten]

- (1) Which among the following is the feature of Python ?
  - (a) Portable
  - (b) Platform Independent
  - (c) Open Source
  - (d) All of the above
- (2) Which datatype represents an object that does not contain any value ?
  - (a) None
  - (b) Frozenset
  - (c) Set
  - (d) None of these
- (3) Which command is used to install pandas ?
  - (a) Install pandas
  - (b) Setup install pandas
  - (c) Pip install pandas
  - (d) Python install pandas
- (4) Which function is used to draw a bar chart ?
  - (a) plt.chart()
  - (b) plt.bar()
  - (c) plt.barchart()
  - (d) All of these
- (5) Which function displays statistical information about dataframe() ?
  - (a) df.info()
  - (b) df.stats()
  - (c) df.summary()
  - (d) df.describe()
- (6) Which operator is used to check if an element is present in the sequence ?
  - (a) in
  - (b) not in
  - (c) is
  - (d) None of the above
- (7) Which of these is a correct syntax for a lambda function ?
  - (a) lambda x, y : x + y
  - (b) def lambda (x, y): return x + y
  - (c) lambda (x, y) => x + y
  - (d) lambda xy : x + y
- (8) Which function is used to sort elements of the tuple() ?
  - (a) sort()
  - (b) sorted()
  - (c) arrange()
  - (d) All of these
- (9) \_\_\_\_\_ are the variables whose separate copy is created in every instance.
  - (a) Class variable
  - (b) Static variable
  - (c) Instance Variable
  - (d) All of these
- (10) Which of the following will handle all types of exceptions ?
  - (a) except :
  - (b) except Exception:
  - (c) except Base Exception:
  - (d) All of the above
- (11) Which of the following is not a type of polymorphism in Python ?
  - (a) Method Overriding
  - (b) Operator Overloading
  - (c) Method Overloading
  - (d) Compilation
- (12) Which method returns a list of all key-value pairs in a dictionary ?
  - (a) get()
  - (b) pairs()
  - (c) items()
  - (d) values()