

1 No. 2309000022

BCA-S-303

Bachelor of Computer Applications (Third Semester)

EXAMINATION, 2024-25

PROGRAMMING USING PYTHON

Time : 2½ Hours

Maximum Marks : 60

• All questions have to be attempted.

Section-A 1 each

(Multiple Choice Questions)

- (a) What was the primary programming language Guido Van Rossum was working on before creating Python ? (CO1, BL-2)

 - (i) ABC
 - (ii) Perl
 - (iii) C++
 - (iv) Pascal

(b) Which of the following is the correct syntax to create syntax to create a class in Python ?

(CO3, BL-3)

(i) class Myclass [] :

~~(ii)~~ class Myclass :

(iii) class Myclass () :

(iv) def class Myclass :

(c) How can you access a name-mangled variable from outside the class ? (CO3, BL-2)

(i) Using the original variable name

(ii) By using the getattr() function only

(iii) It cannot be accessed outside the class

(iv) Using its mangled name

(d) The return value of a function with no return statement is : (CO2, BL-3)

(i) 0

(ii) False

(iii) None of the above

(iv) “ ”

(e) Accessing function annotations can be done using : (CO2, BL-2)

- (i) -- annotations --
- (ii) annotations()
- (iii) get_annotations()
- (iv) -- function --

(f) random . random() gives the value :

(CO2, BL-2)

- (i) An Integer between 0 and 1
- (ii) A random string
- (iii) A random boolean value
- (iv) A float between 0 and 1

(g) The Python module commonly used to interact with SQLite database is : (CO4, BL-3)

- (i) dbsqlite
- (ii) sqlite3
- (iii) SQLALite
- (iv) Pyodbc

(h) Closing the database connection in Python using sqlite3 is essential because :

(CO4, BL-3)

- (i) It prevents memory leaks.
- (ii) It allows other applications to access the database.
- (iii) It saves all unsaved changes.
- ~~(iv) Both (i) and (ii)~~

(i) A ZeroDivisionError in Python typically occurs when : (CO3, BL-2)

- ~~(i)~~ Division by zero is attempted.
- (ii) An invalid type is used.
- (iii) An index is out of range.
- (iv) A function is called with incorrect arguments.

(j) When using a try block, if an exception occurs. The flow of control moves to :

(CO3, BL-3)

- (i) The next line after the try block
- ~~(ii)~~ The except block
- (iii) The finally block
- (iv) The calling function

(k) The method to reshape a Numpy array is :

(CO5, BL-3)

- (i) np.change-shape ()
- (ii) np.size ()
- (iii) np.reshape ()
- (iv) np.modify-shape ()

(l) The primary data type used in Numpy for floating-point numbers is : (CO5, BL-3)

- (i) int
- (ii) decimal
- (iii) float
- (iv) float64

2. Attempt any *four* of the following : 3 each

- (a) Explain Nested Loop in Python. (CO1, BL-4)
- (b) Purpose of Math module. (CO2, BL-2)
- (c) Describe the Regular expression. (CO3, BL-4)
- (d) Describe the role of cursor in database handling. (CO4, BL-3)
- (e) Describe the history of Python. (CO1, BL-2)

Section—B**(Long Answer Type Questions)**

3. Attempt any *two* of the following : 6 each

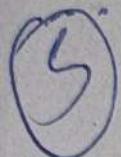
- (a) Differentiate list and tuple in detail and give examples for all differences. (CO1, BL-3)
- (b) WAP to check whether a given number is a Happy Number or not. (CO2, BL-5)
- (c) WAP to create a Random Password with the following : (CO2, BL-5)
 - (i) Maximum Length 10 characters
 - (ii) Min. Length 6 characters
 - (iii) Must contain (one upper, one lower)
 - (iv) Must contain (one digit)
 - (v) No special characters

4. Attempt any *two* of the following : 6 each

- (a) Explain the concept of function overloading and overriding in class with suitable examples. (CO3, BL-4)
- (b) Explain the concept of Multiple Inheritance. Give suitable example. (CO3, BL-4)
- (c) Explain Python Libraries : (CO5, BL-3)
 - (i) Pandas
 - (ii) Matplotlib
 - (iii) OS

5. Attempt any *two* of the following : 6 each

(a) Explain the concept of Dictionary in Python.



Create a Nested Dictionary. Take any example and also use the del and pop () method to remove item from dictionary.

(CO1, BL-5)



(b) Write a Python program to match a string that contains only upper and lowercase letters, numbers and underscores. (CO3, BL-4)

(c) WAP to check whether a given no. is prime or not. (CO1, BL-6)