Enroll. No._____

MARWADI UNIVERSITY
MU-FOT
CE-FOT1 (MU), IT-FOT1 (MU)
Semester 7 - Winter

Subject : PROGRAMMING WITH PYTHON (01CE0705)
Date : 22-Oct-2021 **Time : 3 Hours** **Total Marks : 100**

Instructions :

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

Que.1 Answer the following objectives **[10]**
(A)

(1) A list of elements in which enqueue operation takes place from one end, and dequeue operation takes place from one end is____

A) Binary tree
B) Stack
C) Queue
D) Linked list

(2) For a binary search algorithm to work, it is necessary that the array (list) must be:

A) sorted
B) unsorted
C) in a heap
D) popped out of stack

(3) What will be output for the following code?

```
a='hello'
b=5
print(a+b)
```

A) Type Error
B) Value Error
C) 'hello5'
D) None of these

(4) Which of the following represents a template, blueprint, or contract that defines objects of the same type?

A) A class
B) An object
C) A method
D) A data field

(5) What will be the output of the following Python code?

```
t=(1,2,4,3)
t[0::2]
```

A) (1,2,4,3)
B) (1,3)
C) (2,4)
D) (1,2)

(6) 5/0 is going to raise which exception?

A) Type Error

B) Syntax Error

C) Zero Division Error

D) Value Error

(7) To insert element 5 to the third position in list1, we use which command?
A) list1.insert(3, 5)
B) list1.insert(2, 5)
C) list1.add(3, 5)
D) list1.append(3, 5)

(8) Which exception raised when a calculation exceeds maximum limit for a numeric type?

A) StandardError
B) ArithmeticError
C) OverflowError
D) FloatingPointError

(9) Which one of the following is the correct extension of the Python file?

A) .py

B) .python

C) .p

D) None of these

(10) What will be the output of the following Python code?

```
list1 = [11, 2, 23]
list2 = [11, 2, 2]
print(list1 < list2)
```

A) True
B) False
C) Error
D) None

Que.1 (B) Answer the following questions. **[10]**

(1) What are the two examples of divide-and-conquer algorithms?

(2) List out all the Queue data structure operations.

(3) Define Queue Data structure.

(4) Name the class which is the base class for all the exception.

(5) What is the answer to this expression, 22 % 3 is?

(6) What is the output of the expression "a"+"bc" ?

(7) When does TypeError occur?

(8) What is the use of id() function in Python?

(9) A tuple is declared as T = (2,5,6,9,8). What will be the value of sum(T)?

(10) Is it compulsory to have except block in exception handling?

Que.2

(A) Write python code to create Person class with attributes 'name' and 'id'. Inherit Employee class from Person and add 'salary', 'post' as new attributes to it. Demonstrate how parent constructors can be called from the child class to initialize parent class attributes. [8]

(B) What is Depth First Search? How to implement it in python? [8]

OR

(B) Write a program to sum all the odd numbers from 1 to 10. [8]

Que.3

(A) Write a python script to handle any 3 exceptions in a single program. [8]

(B) Define a function that can accept two strings as input and concatenate them and then print it. [4]

(C) Explain the if elif else ladder in Python with syntax and example. [4]

OR

(A) What are default parameters in Python? Explain with example program. [8]

(B) Write a program to input string from user and convert it into list. [4]

(C) Explain the format() function of string data-type in Python with syntax and example. [4]

Que.4

(A) Write a python script to demonstrate the user defined exception. [8]

(B) What is Polymorphism in Python? Explain with example program. [8]

OR

(A) List and explain any 8 built-in exception classes in python. [8]

(B) Write a program to implement the insertion, search operation, and inorder traversel of Binary Search Tree in Python. [8]

Que.5

(A) Explain BFS and DFS with example. [6]

(B) What is the use of map() function? Explain with syntax and example program. [6]

(C) Explain method overiding in detail. [4]

OR

(A) State three points of difference between List and Tuple in Python. [6]

(B) Write a Python program that accepts a string from user. Your program should create a new string in reverse of first string and display it. For example if the user enters the string 'EXAM' then the new string would be 'MAXE' [6]

(C) Write a python script to demonstrate the use of finally in exception handling. [4]

Que.6

(A) Write a script for implementation of Queue. [8]

(B) Explain the difference method of set data structure in Python with example. [4]

(C) Write a program that accepts a string from user and delete all numbers from it. For example if the entered string is 'Welcome to 2021 class.' it should display 'Welcome to class'. [4]

OR

(A) Explain the following functions of dictionary data structure with example: [8]

1. values()
2. get()
3. popitem()

(B) State the differences between Exception and Error. [4]

(C) Write a python program to create Parrot class with Name and Age attributes. Demonstrate how to access these (Name and Age) attributes. [4]

---Best of Luck---

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Difficulty Level	Weightage Recommended	Weightage Actual	No of Question	Total Marks	Question List
High	20	26.16	7	45	1(A), 2(A), 2(B), 4(A), 4(B), 5(C)
Low	20	50.00	30	86	1(A), 1(B), 3(A), 3(B), 3(C), 4(B), 5(A), 5(B), 5(C), 6(A), 6(B)
Medium	60	23.84	8	41	1(B), 3(C), 4(A), 5(A), 5(B), 6(A), 6(C)

Module Name	Weightage Recommended	Weightage Actual	No of Question	Total Marks	Question List
Basics of Python	10	15.70	8	27	1(A), 1(B), 2(B), 3(B), 3(C), 6(C)
Structure Types and mutability	10	19.19	10	33	1(A), 1(B), 3(B), 5(A), 5(B), 6(A), 6(B)
Exception, Testing and Debugging	20	22.09	11	38	1(A), 1(B), 3(A), 4(A), 5(C), 6(B)
Classes and OOP Concepts	20	22.67	7	39	1(A), 2(A), 3(A), 4(B), 5(B), 5(C), 6(C)
Algorithm and Data Structure	20	20.35	9	35	1(A), 1(B), 2(B), 4(B), 5(A), 6(A)
Advance Topics	20	0.00	0	0	

Blooms Taxonomy	Weightage Recommended	Weightage Actual	No of Question	Total Marks	Question List
Remember / Knowledge	10	58.14	32	100	1(A), 1(B), 3(A), 3(B), 3(C), 4(A), 4(B), 5(A), 5(B), 5(C), 6(A), 6(B)
Understand	20	4.65	1	8	3(A)
Apply	25	20.93	6	36	2(B), 3(B), 4(B), 5(C), 6(C)
Analyze	25	1.16	2	2	1(A), 1(B)
Evaluate	10	3.49	1	6	5(B)
Higher order Thinking	10	11.63	3	20	2(A), 4(A), 6(C)