

Python Question Paper

Duration: 90 Minutes

Total Marks: 50

SECTION A — Multiple Choice Questions (1 mark each)

1. Which of the following is a valid variable name in Python?

- a) 2value b) _value c) value#1 d) @value

2. What is the output of the following code:

```
x = 5
y = 2
print(x ** y)
a) 10 b) 25 c) 7 d) 3
```

3. Which operator has the highest precedence in Python?

- a) Addition (+) b) Exponentiation (**) c) Multiplication (*) d) Division (/)

4. What will be the output of:

```
a = 10
b = 20
print(a and b)
a) True b) False c) 10 d) 20
```

5. Which statement is used to skip the current iteration in a loop?

- a) pass b) stop c) break d) continue

6. What is the output of:

```
for i in range(3):
    print(i, end=' ')
else:
    print('done')
a) 0 1 2 done b) 0 1 2 c) done d) error
```

7. Which of the following is a mutable data type in Python?

- a) tuple b) list c) string d) int

8. What will this code print:

```
x = 10
if x > 5:
    print('High')
else:
    print('Low')
a) Low b) High c) Error d) Nothing
```

9. Which of the following loops will execute at least once?

- a) for loop b) while loop c) do-while loop d) None

10. What is the output of:

```
for i in range(1, 4):
    for j in range(1, 3):
        print(i, j)
a) Prints (1,1) to (3,2) b) Error c) Infinite loop d) Prints 3 times
```

SECTION B — Problem Solving (4 marks each)

1. Write a Python program to input a number and check whether it is even or odd without using built-in functions.
2. Write a program to take a string and print each character and its index using a for loop.
3. Accept two numbers and perform all arithmetic operations (addition, subtraction, multiplication, division, floor division, modulus, power).
4. Write a program that prints the largest of three numbers using nested if statements.
5. Accept a number and check if it is positive, negative, or zero using if-elif-else.
6. Write a Python program using a while loop to print the sum of digits of a number. (Without built-in methods like sum() or slicing)
7. Print the following pattern using nested loops:
1
12
123
1234
12345
8. Write a Python program to print all numbers between 1 and 50 that are divisible by both 3 and 5, but skip numbers divisible by 10 using continue.
9. Write a program that takes an integer input and prints whether it is a prime number or not.
10. Write a program to find the factorial of a number using a while loop (without recursion or math module).