Python Test

MM:30   Duration : 1hr 30min

Section A: Multiple Choice Questions (MCQs) [1 mark each]

1. What will be the output of the following code?

```
for i in range(2):

    for j in range(2):

        print(i, j)
```

a) (0,0) (0,1) (1,0) (1,1)

b) (0,0) (0,1) (1,0)

c) (0,1) (1,0) (1,1)

d) (0,0) (1,1)

2. What does the `range(3, 8, 2)` function return?

a) [3, 4, 5, 6, 7]

b) [3, 5, 7]

c) [3, 6]

d) [3, 8]

3. How many times will "Hello" be printed?

```
for i in range(3):

    for j in range(2):
```

```
        print("Hello")
```

a) 3

b) 2

c) 6

d) 5

4. What will be the output of the following code?

```
x = 5

while x > 0:

    print(x, end=" ")

    x -= 1
```

a) 5 4 3 2 1

b) 5 4 3 2

c) 4 3 2 1

d) 5 3 1

5. What will be the value of count after the following loop executes?

```
count = 0

for i in range(3):

    for j in range(3):

        count += 1
```

a) 3

b) 6

c) 9

d) 12

Section B: Fill in the Blanks [1 mark each]

6. The _____ keyword is used to exit a loop prematurely.
7. The _____ function is used to take input from the user in Python.
8. The `range(4)` function generates numbers from _____ to _____.
9. A `while` loop continues execution as long as its condition is _____.
10. The syntax for a `for` loop in Python is:
    `for variable in _____:`

Section C: Short Answer Questions [3 marks each]

11. Write a Python program that takes an integer `n` as input and prints a multiplication table for numbers from `1` to `n`.
12. Print a square pattern where the border is `1` and the inside is `0`.
13. Print a mirror image of a right-angled triangle pattern.
14. Write a Python program that asks the user for a number and prints whether it is palindrome or not , using a loop.

Section D: Coding Questions [4 marks each]

15. Write a Python program to input the basic salary of an employee and calculate its Gross salary according to the following:
    ○ Basic Salary <= 10000 : HRA = 40%, DA = 75%
    ○ Basic Salary <= 20000 : HRA = 15%, DA = 30%
    ○ Basic Salary > 20000 : HRA = 20%, DA = 85%

16. Write a Python program that asks the user for a number and prints whether it is prime or not , using a loop.