PROGRAMMING WITH PYTHON
(MCA1102)

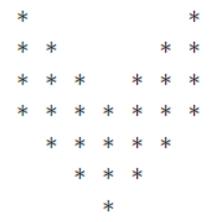**Time Allotted: 25 min**   **Full Marks: 10**

1. Explain with a relevant example the utility of having an else block associated with a loop.

[(CO3)(Understand/LOCQ)]

2. Write a Python script to print the following pattern, where the no. of rows is user input. It should only print the pattern if the user input is odd.

[(CO1, CO3)(Apply/IOCQ)]

E.g. for no. of rows=7, the pattern is

```
*                 *
*  *           *  *
*  *  *     *  *  *
*  *  *  *  *  *  *
   *  *  *  *  *
      *  *  *
         *
```

[3 + 7]

Course Outcome:

After the completion of the course students will be able to
CO1   Develop simple Python programs using Python statements and expressions.
CO2   Demonstrate use of lists, tuples, sets and dictionaries to represent compound data.
CO3   Explain control flow and functions in Python for solving problems.
CO4   Articulate object-oriented programming concepts such as encapsulation, inheritance and polymorphism as used in Python.
CO5   Illustrate the commonly used operations involving file systems handling in Python.
CO6   Explore Python libraries like NumPy, Matplotlib and Pandas for mathematical functions, visualization, and data access.

*LOCQ: Lower Order Cognitive Question; IOCQ: Intermediate Order Cognitive Question; HOCQ: Higher Order Cognitive Question