SEAT No. :

[5860]-318
S.Y.M.B.A.
305 BA SC-BA-04 : MACHINE LEARNING & COGNITIVE INTELLIGENCE USING PYTHON
(2019 Pattern) (Semester - III)

Time : 2½ Hours]   *[Max. Marks : 50*

Instructions to the candidates:

1) Figures to the right indicate full marks.

2) Assume suitable data if necessary.

3) Draw neat diagrams wherever necessary.

4) All questions are compulsory.

Q1) Solve any five:

   a)   State how to define variable in python? **[2]**

   b)   Identify any two features of machine learning. **[2]**

   c)   List various loops in python. **[2]**

   d)   List any two differences between lists and sets. **[2]**

   e)   What do you mean by operator overloading in python? **[2]**

   f)   Define the term cognitive intelligence. **[2]**

   g)   Identify the steps of CRISP - DM Methodology. **[2]**

   h)   What do you mean by data visualisation? **[2]**

Q2) Solve any two:

   a)   Describe Numpy Arrays. Explain with example. **[5]**

   b)   Distinguish between clustering and classification in machine learning. **[5]**

   c)   Discuss the Reinforcement learning with example. **[5]**

P.T.O.

Q3) Solve any one:

    a)   Explain the decision tree algorithm in machine learning with example.**[10]**

    b)   Explain the concept of simple and multiple regression. **[10]**

Q4) Solve any one:

    a)   Discuss how the clustering is useful in marketing domain? **[10]**

    b)   Analyse K - Nearest Neighbour algorithm for machine learning. **[10]**

Q5) Solve any one:

    a)   Design a code in python to print the following pattern. **[10]**

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

    b)   "Machine learning will make companies more efficient and allow them to streamline business processes of an organisation". Justify the statement.

    [10]