Exam Date & Time: 12-Jan-2024 (09:30 AM - 12:30 PM)

MANIPAL ACADEMY OF HIGHER EDUCATION

THIRD SEMESTER B.TECH END SEMESTER EXAMINATIONS, JAN 2024

INDUSTRIAL INTERNET OF THINGS [MIE 2126]

Marks: 50   **Duration: 180 mins.**

A

Answer all the questions.

Instructions to Candidates: Answer ALL questions Missing data may be suitably assumed

1)   Describe about the 4-stage IoT architecture with a neat schematic diagram.

                                                                                                    (4)

   A)

   B)   Analyze the important characteristics of big data.

                                                                                                    (3)

   C)   Analyze about the different types of clouds and their applications.

                                                                                                    (3)

2)   Elaborate on the socio-economic impact of industry 4.0.

                                                                                                    (4)

   A)

   B)   Discuss about principles of lean manufacturing processes.

                                                                                                    (3)

   C)   Describe about the benefits of fog computing.

                                                                                                    (3)

3)   Elaborate on the features of Cassandra employed as a part of big data analytics tool.

                                                                                                    (4)

   A)

   B)   Compare the different network topologies of IIoT with a neat labelled diagram.

                                                                                                    (3)

   C)   Analyze the building blocks of sustainable industrial design.

                                                                                                    (3)

4)   Compare the features of edge computing and cloud computing.

                                                                                                    (4)

   A)

   B)   Illustrate about the Modbus communication protocol employed in the industrial data
           acquisition system with a neat labeled diagram.

                                                                                                    (3)

   C)   Elaborate on the different types of augmented reality.

                                                                                                    (3)

5)   Analyze about the different challenges of the IIoT system in manufacturing sector.   (4)

A)

B)   Illustrate about the various IIoT analytics employed in the industries.

                                                                                              (3)

C)   In machine learning compare the linear and logistic regression models with suitable
             examples.   (3)

-----End-----