3 Hours / 70 Marks   Seat No.

Instructions :   (1)   All Questions are *compulsory.*

                 (2)   Answer each next main Question on a new page.

                 (3)   Illustrate your answers with neat sketches wherever necessary.

                 (4)   Figures to the right indicate full marks.

                 (5)   Assume suitable data, if necessary.

                 (6)   Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

Marks

1.   **Attempt any FIVE of the following :**   **10**

    (a)   List different deployment levels.

    (b)   List the basic components of sensor network.

    (c)   List features of Raspberry Pi.

    (d)   Give any four examples of IoT used in healthcare.

    (e)   List ideal ethics for IoT.

    (f)   List functional view specification of IoT system.

    (g)   Explain the concept of cloud based IoT platform.

2.   **Attempt any THREE of the following :**   **12**

    (a)   Compare between cloud computing and big data analytics.

    (b)   List the environmental issues relating to IoT.

    (c)   Give different protocols of IoT and explain any one in brief.

    (d)   Explain interfacing of arduino with sensor.

3. **Attempt any THREE of the following :** 12

   (a) List different IoT enabling technologies which play a key role and explain any one of them.

   (b) Explain purpose and requirement specification of IoT Design.

   (c) Explain an IoT Device with neat block diagram.

   (d) Give in detail application of Internet of Things in home automation.

   (e) Explain the open Internet of Things with example.

4. **Attempt any THREE of the following :** 12

   (a) Describe information model of the Home automation in IoT system.

   (b) Explain an IoT Device with neat block diagram.

   (c) What is the relation between WSN and IoT ? Explain with example.

   (d) Write IoT application used in health & fitness monitoring.

   (e) Describe process specification for Home Automation IoT system.

5. **Attempt any TWO of the following :** 12

   (a) Explain wireless sensor network in detail.

   (b) Define Middleware. Explain any one middleware in detail. Give Middleware application example.

   (c) Explain service specification step of IoT system design methodology.

6. **Attempt any TWO of the following :** 12

   (a) Describe the term IoT Device. List examples and explain any one.

   (b) Explain the Privacy v/s the IoT.

   (c) Explain applications of IoT in Agricultural automation system.

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