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3 Hours / 70 Marks Seat No. 1 0 2 9 1 9

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) Use of Non-programmable Electronic Pocket Calculator is permissible.

(7) 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) Define IoT.

b) List different types of IP addresses.

c) Give any two requirement specification of IoT system.

d) List features of Raspberry Pi.

e) Give any two applications of IoT for Agriculture.

f) List different IoT enabling technologies of IoT.

g) Compare IoT and M2M.

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

a) State and explain the characteristics of IoT.

b) State the various TCP/IP layers and their function in brief.

c) List and explain the steps involved in IoT System Design Methodology.

d) Explain cloud base IoT platforms.

P.T.O.

Marks

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

a) Compare between cloud computing and big data analytics.

b) Explain any one relevant application of WSN in IoT.

c) Explain operational view specification with an example.

d) Explain Raspberry Pi board functions.

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

a) Explain Physical and Logical design of IoT.

b) Describe information Model of the Home automation IoT systems.

c) Explain the function of web server for IoT with example.

d) Explain Renewable energy system application using IoT.

e) Write and explain IoT applications used in health and fitness monitoring.

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

a) Explain IoT levels 5 and level 6 with neat diagram.

b) Explain RFID middleware Architecture. State its applications.

c) Illustrate how to interface a LED to raspberry pi and write a program to blink LED.

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

a) With the help of neat diagram explain the basic building blocks of IoT devices.

b) What is smart city? What are the characteristics of Smart City? Explain briefly about challenges of Smart City Implementation in brief.

c) Explain application of IoT in Home Automation system.
