6. (a) How IoT is used in smart agriculture? Name some sensors and actuators used for IoT application in agriculture.

(b) Explain the key features of home automation with necessary steps.

(c) What are some of the biggest security vulnerabilities that come with IoT?

⌘⌘⌘

S.No. : 612 NPEC 43224 / 43914

No. of Printed Pages : 04

Following Paper ID and Roll No. to be filled in your Answer Book.

PAPER ID : 43223 Roll No.

B. Tech. Examination, 2026

(Even Semester)

INTERNET OF THINGS

Time : Three Hours] *[Maximum Marks : 60*

Note :– Attempt all questions.

SECTION–A

1. Attempt all parts of the following : 8×1=8

(a) What are the key components of an IoT system?

(b) How M2M is different from IoT?

(c) What is the role of an IoT gateway?

(d) What is MQTT?

(e) Compare TCP and UDP.

(f) Define actuators and sensors.

(g) List out the I/O interfaces used in IoT.

(h) Differentiate between logical and physical design of IoT.

SECTION – B

2. Attempt any two parts of the following : 2×6=12

(a) Describe the characteristics and logical design of IoT.

(b) Discuss about the IoT communication models.

(c) State and explain about M2M communication with example.

(d) Describe in detail about the IoT reference model.

SECTION – C

Note :– Attempt all questions. Attempt any two parts from each questions. 8×5=40

3. (a) Design the protocol layer of IoT and explain various protocols used in each layer.

(b) Illustrate the various IoT communication APIs.

(c) Discuss the global context of M2M towards IoT.

4. (a) Discuss the following :

(i) M2M value chain

(ii) IoT value chain

(b) Explain the IoT architecture outline.

(c) What are the several constraints affecting design in the IoT world?

5. (a) Explain the hardware's which are utilized for IoT. Compare RFID technology and wireless sensor networks.

(b) Explain the components of an IoT device.

(c) What do you mean by IoT smart city? List out some features of smart city.

[P. T. O.