

Roll No.

Total Pages : 2

BT-8/M-20

38197

INTRODUCTION TO INTERNET OF THINGS

Paper–IT-420-N

Time Allowed : 3 Hours]

[Maximum Marks : 75

Note : Attempt **five** questions in all, selecting at least **one** question from each Unit. All questions carry equal marks.

UNIT-I

1. (a) Define Internet of Things. What are the major components of IoT system? Explain in detail. 8
- (b) What are the functional blocks of IoT? Discuss the significance of each block. 7
2. (a) Draw and discuss 4 layer reference architectural model of IoT given by ITUT. Explain working of each layer. 8
- (b) Discuss the architecture of M2M system. What are the security issues in M2M? 7

UNIT-II

3. (a) What are the merits of Arduino boards for designing IoT application services? Compare it with Raspberry pi board. 8

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- (b) Compare NFC, RFID and Bluetooth communication protocols which can be used for device communication in IoT. 7
- 4. (a) Describe Data management in IoT? Write down the functions of Data management. 8
- (b) What are various security and privacy issues in IoT system? How these issues can be resolved? 7

UNIT-III

- 5. (a) Explain the functional view of IoT reference architecture. 7
- (b) Describe Bluetooth low energy protocol used in IoT. 8
- 6. Explain ZigBee protocol in detail. 15

UNIT-IV

- 7. Explain design steps in maintaining monitoring process of Retail. Draw the architectural reference model. 15
- 8. Discuss the application of IoT in Agriculture monitoring. Explain the various steps. 15