



**SPRING END SEMESTER EXAMINATION-2019**  
**8<sup>th</sup> Semester B.Tech & B.Tech Dual Degree (Open Elective-III)**

**INTERNET OF THINGS**

**IT-4021**

**(For 2016(L.E) & 2015 Admitted Batches)**

Time: 3 Hours

Full Marks: 60

*Answer any SIX questions.*

*Question paper consists of four sections-A, B, C, D.*

*Section A is compulsory.*

*Attempt minimum one question each from Sections B, C, D.*

*The figures in the margin indicate full marks.*

*Candidates are required to give their answers in their own words as far as practicable and all parts of a question should be answered at one place only.*

**SECTION-A**

1. Answers all the questions [2 × 10]
- (a) What are the differences between Internet of things and Internet of everything?
  - (b) "Security is an integral aspect of IoT applications". Justify your answer.
  - (c) What are the components of operational view specification?
  - (d) What is the role of internet in IoT?
  - (e) List two limitations of Machine-to-Machine (M2M).
  - (f) Compare Job Tracker and Task Tracker in a Hadoop cluster.
  - (g) What are the architectural constraint of REST?
  - (h) Explain the role of observer node in IoT deployment process.

- (i) Compare clustering and classification.
- (j) Explain the functionality of different ports in Raspberry Pi board.

### SECTION-B

- 2. (a) What is M2M? Draw the block diagram of M2M gateway, Classify IoT and M2M. [4]
- (b) What do you mean by a “Smart City”? Explain in context of “Internet Of Things(IoT)”. [4]
- 3. (a) Model the MVC architecture of IoT. [4]
- (b) Briefly explain the steps of IoT design methodology. [4]

### SECTION-C

- 4. (a) Examine the work flow of Hadoop Map Reduce job execution. [4]
- (b) Analyze with diagram the communication between M2M nodes and M2M gateway. [4]
- 5. Develop the case study of IoT in different units of Retail industry. [8]
- 6. (a) In an IoT communication model, organize the interaction mechanism among publisher, broker and consumer. [4]
- (b) Analyze the pros and cons of various communication models in IoT. [4]

## SECTION-D

7. (a) Discuss with diagram how “Noise Monitoring” is deployed in IoT. [4]
- (b) Explain how Lack of uniform technical standards might affect the development and implementation of the Internet of things (iot). [4]
8. Elaborate *any two* of following. [4×2]
- (a) IoT protocol stack
  - (b) REST communication
  - (c) Applications of IoT in logistics

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