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T.E. (Information Technology)
INTERNET OF THINGS
(2019 Pattern) (Semester - I) (314445 D) (Elective-I)

Time : 2½ Hours]   *[Max. Marks : 70*

Instructions to the candidates:

1) *Answer Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.*

2) *Neat diagrams must be drawn wherever necessary.*

3) *Figures to the right side indicate full marks.*

4) *Assume Suitable data if necessary.*

Q1) a)   Explain in detail IEEE 802.15.4.   **[8]**

b)   What are disadvantages of IPv4 as compare to IPv6? How IPv6 is more suitable for IoT implementation?   **[9]**

OR

Q2) a)   Explain how Bluetooth pays important role in communication system? Explain in detail Bluetooth Technology with neat diagram.   **[8]**

b)   What are advantages of 6LoWPAN? Explain in detail 6LoWPAN technology.   **[9]**

Q3) a)   What is Arduino? What are the things need to be considered for developing on the Arduino? Which are the official Arduino Boards?   **[8]**

b)   Draw and explain interfacing of Bluetooth speaker using raspberry pi with python program   **[9]**

OR

P.T.O.

Q4) a) Compare Arduino Uno & Raspberry Pi Model. **[8]**

b) Draw and explain interfacing of robotic ARM using raspberry pi with python program **[9]**

Q5) a) List different cloud storage models. Explain Cloud Storage models (SaaS, Paas, IaaS) and communication APIs Web server in details. **[9]**

b) Explain how security is important in IoT? Explain the challenges of secure IoT? **[9]**

OR

Q6) a) What is vulnerabilities in IoT? Explain in detail. **[9]**

b) Explain in detail why there is a need of security model in IoT? Explain security model of IoT? **[9]**

Q7) a) Explain in detail how IoT is used in Home automation **[9]**

b) List applications of IoT in agriculture. Explain in detail how IoT can be used in agriculture Applications? **[9]**

OR

Q8) a) Explain in detail how IoT is used in smart city application **[9]**

b) Elaborate on how you will use IoT for remote health care. **[9]**

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