

Total No. of Questions : 8]

SEAT No. :

P-7624

[Total No. of Pages : 2

[6180]-144

T.E. (Information Technology)

INTERNET OF THINGS

(2019 Pattern) (Semester - I) (314445D) (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 indicate full marks.*
- 4) *Assume suitable data, if necessary.*

Q1) a) Explain in detail application Layer Protocols MQTT and AMQP. [8]

b) Explain Piconet and Scatternet with Bluetooth. Explain advantages and disadvantages of Bluetooth. [9]

OR

Q2) a) What is Zigbee? Explain in detail ZigBee protocol stack. [8]

b) Explain data aggregation and dissemination in detail. [9]

Q3) a) What is an IoT Device? List different IoT Devices. Explain any 2 devices. [8]

b) Explain in detail Interfaces (Serial, SPI, I2C). [9]

OR

Q4) a) Draw and explain interfacing of input device (LED) using Arduino Uno with program. [8]

b) Why python is important in IoT? How python plays important role in the Raspberry Pi language than C or C++? [9]

Q5) a) Explain Data and message security and Non repudiation and availability with respect to IoT security. [9]

b) Explain in detail Web server for IoT and role of Ubidots for Cloud in IoT. [9]

P.T.O.

OR

- Q6)** a) What is threat analysis in IoT? Explain threat analysis in detail. [9]
b) Explain Key elements of IoT Security Identity establishment and Access control. [9]

- Q7)** a) Explain in detail IoT Industry Applications - Machine Diagnosis and Prognosis, Indoor Air Quality Monitoring. [9]
b) Explain how you will design a smart water management system for agriculture using IoT. [9]

OR

- Q8)** a) What is role of IoT in health monitoring? Explain in detail any two application of health monitoring using IoT. [9]
b) Explain in detail How IoT can be used in home automation. [9]

