

Total No. of Questions : 8]

SEAT No. :

PE-2520

[Total No. of Pages : 2

[6583]-46

**T.E. (Computer Engg./ Computer Science)**

**Internet of Things & Embedded Systems**

**(2019 Pattern) (Semester - V) (310245 A)(Elective - I)**

*Time : 2½ Hours]*

*[Max. Marks : 70*

*Instructions to the candidates :*

- 1) *Attempt question Q.1 or Q.2, Q.3 or Q.4, Q. 5 or Q. 6, Q. 7 or Q. 8.*
- 2) *Draw neat & labelled diagrams if necessary.*
- 3) *Assume suitable data if necessary.*
- 4) *Figures to the right side indicate full marks.*

- Q1)** a) Compare REST and WebSocket communication methods used in IoT[6]
- b) Explain 4 pillars of IoT system with diagram [5]
- c) Design the purpose and requirement specification for smart IoT-based Home monitoring system. [6]

OR

- Q2)** a) Discuss exclusive pair communication model in IoT communication.[6]
- b) Explain SCADA system & it's applications. [5]
- c) Explain the domain model specification step with diagram. [6]

- Q3)** a) Discuss the standardization efforts taken by different systems for IoT Protocols. [6]
- b) Outline IP-based protocols. Explain the working of 6LoWPAN [6]
- c) Discuss the ZigBee architecture with diagram [6]

OR

**P.T.O.**

- Q4)** a) Explain the working of RFID with any application [6]  
b) Discuss the working of Modbus? Compare the efficiency of Modbus Vs KNX protocol. [6]  
c) Write short note on M2M protocol and its applications. [6]

- Q5)** a) Explain with diagram WAMP (AutoBahn for IoT) [6]  
b) Discuss the services provided by Cloud. [6]  
c) Why Is MQTT the is the preferred protocol for IoT? [6]

OR

- Q6)** a) Determine the role of cloud storage models in IoT. [6]  
b) Show the use of Cloud Computing while implementing the parcel tracking application. [6]  
c) Explain in short Amazon S3, Amazon EC 2 [6]

- Q7)** a) Illustrate the key elements of the IoT security with suitable examples of each. [6]  
b) What is Skynet? How it is useful to user and developers [6]  
c) Discuss vulnerabilities in IoT. [5]

OR

- Q8)** a) What is threat modelling? What are the benefits of threat modeling? [6]  
b) Infer security challenges for intrusion detection system for smart home. [6]  
c) Discus the Light weight cryptography [5]

