Total No. of Questions : 8]

SEAT No.

PC1722

[Total No. of Pages : 2

[6353]-39

T.E. (Computer Engineering)
INTERNET OF THINGS AND EMBEDDED SYSTEMS
(2019 Pattern) (Semester - I) (310245 (A)) (Elective -I)

Time : 2½ Hours]

[Max. Marks : 70

Instructions to the candidates:

1) Attempt Q1 or Q2, Q3 or Q4, Q5 or Q6, Q7 or Q8.
2) Neat diagrams must be drawn wherever necessary.
3) Assume suitable data if necessary.

Q1) a) Illustrate the working of any 03 Communication models with suitable application. **[6]**

b) Demonstrate SCADA pillar of IoT with Suitable IoT System. **[6]**

c) Illustrate connectivity technologies used in IoT with proper example.**[6]**

OR

Q2) a) Illustrate step wise IoT design methodology. **[6]**

b) Demonstrate the typical RFID system with the help of suitable IoT Application. **[6]**

c) Categorize different IoT design methodologies for Smart Irrigation system. **[6]**

Q3) a) Illustrate the use of MQTT protocol with suitable IoT Application. **[6]**

b) Classify the different Topology of IEEE 802. 15.4 and explain with suitable diagram. **[6]**

c) Show the use of LoRa protocol in any suitable IoT application development. **[5]**

OR

Q4) a) Categorize between SCADA and WSN protocols. **[6]**

b) Illustrate the various IoT applications developed using IP based protocols. **[6]**

c) Illustrate use of Zigbee in the smart home system. **[5]**

P.T.O.

Q5) a) Demonstrate Amazon Cloud platform usage for IoT applications. **[8]**

b) Use the knowledge of Cloud Computing to demonstrate. **[10]**

    i) Autobahn for IoT.

    ii) Xively Cloud

OR

Q6) a) Show that WAMP and its key concepts are useful in Cloud based IoT application Development. **[8]**

b) Apply the concept of cloud computing to design the Weather forecasting system with proper explanation. **[10]**

Q7) a) Predict the possible security challenges in designing secure IoT applications. **[8]**

b) Illustrate the how the classic pillars of information assurance useful in securing the IoT application. **[9]**

OR

Q8) a) Illustrate the threat model is playing role in securing IoT applications.**[8]**

b) Demonstrate the security requirements of IoT Applications. **[9]**

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