Total No. of Questions : 8]

SEAT No. :

PC1722

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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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