Total No. of Questions : 8]

SEAT No. :

PA-1445

[Total No. of Pages : 2

[5926]-61
T.E. (Computer Engineering)
INTERNET OF THINGS AND EMBEDDED SYSTEMS
(2019 Pattern) (Semester - I) (Elective - I) (310245 A)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8.***
2) ***Neat diagram must be drawn wherever necessary.***
3) ***Assume suitable data, if necessary.***

Q1) a) Demonstrate the working of push-pull Communication model using Diagram with suitable application. **[6]**

b) Illustrate any Communication API with Suitable IoT System. **[6]**

c) Examine the use of each pillar of IoT with proper example. **[6]**

OR

Q2) a) Illustrate steps of IoT design methodology for weather forecasting system. **[6]**

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

c) Classify different connectivity technologies required for IoT system development and explain any one of them in brief. **[6]**

Q3) a) Demonstrate the need of standardization of IoT Protocols. **[6]**

b) Classify the different Topology of IEEE 802.15.4 with proper applications. **[6]**

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

OR

Q4) a) Show the merits and demerits between RFID and SCADA protocol. **[6]**

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

c) Examine that why ZigBee is popular than Wi-Fi and Bluetooth in IoT. **[5]**

P.T.O.

Q5) a) Demonstrate the Django framework with the suitable supporting application. **[8]**

b) Use the knowledge of Cloud computing to demonstrate need of **[10]**

i) Amazon Auto Scaling

ii) Xively Cloud for IoT.

OR

Q6) a) Show how WAMP, its related concepts are useful in Cloud based IoT application Development. **[8]**

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

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

b) Show the use of classic pillars of information assurance while securing the IoT application. **[9]**

OR

Q8) a) Examine how threat model is useful in securing IoT applications. **[8]**

b) Use security concepts to identify different threats (at least 03 in each) in the following IoT applications: **[9]**

i) Smart irrigation

ii) Smart home System

iii) Smart Surveillance System