Total No. of Questions : 10]

SEAT No. :

P3632

[Total No. of Pages : 2

[5560]-588

T.E. (Computer Engineering)

EMBEDDED SYSTEM & INTERNET OF THINGS

(2015 Course) (Semester - II) (310252)

Time : 2½ Hours] *[Max. Marks : 70*

Instructions to the candidates:

1) ***Answer any five questions Q.1 or Q.2, Q.3 or Q.4, Q.5 or Q.6, Q.7 or Q.8, Q.9 or Q.10.***
2) ***Assume suitable data if necessary.***
3) ***Figures to the right indicate full marks.***
4) ***Draw neat & labelled diagram wherever necessary.***

Q1) a) What are the Good qualities of RTOS? List any 4 RTOS. **[5]**

b) What is Publisher-Subscriber communication model with diagram. **[5]**

OR

Q2) a) Explain Purpose & Requirement specification step of IoT system design methodology, consider smart IoT-based automation system as an example. **[5]**

b) List the application layer protocol for IoT systems. Explain one of those in detail. **[5]**

Q3) a) Explain Earliest deadline and Rate monotonic scheduling algorithm with example. **[5]**

b) What is SCADA? Explain the components of it. **[5]**

OR

Q4) a) What is SoC? Explain major applications of SoC and benefits of it. **[4]**

b) What is the importance of service specification in IoT design methodology? **[4]**

c) Justify Raspberry Pi is suitable for IoT system? **[2]**

Q5) a) What are issues with IoT standardization? **[5]**

b) Explain the Modbus message framing and transmission modes. **[6]**

c) Explain Zigbee architecture with diagram. **[5]**

OR

P.T.O.

Q6) a) Explain the Zigbee node types and their functions. **[6]**

b) Explain the functions of layers of BACNet protocol. **[6]**

c) What are the challenges for securing IoT? **[4]**

Q7) a) Define: Web of Things. Explain pillars of the web? **[6]**

b) Justify Cloud computing is the fusion of grid and SOA. **[6]**

c) What is Cloud of Things Architecture. **[5]**

OR

Q8) a) Explain SoDA architecture with diagram. **[6]**

b) Explain SaaS, PaaS & laaS with example in Cloud Computing. **[6]**

c) What is OSGi: The Universal Middleware? **[5]**

Q9) a) Design Weather Monitoring system, what are the different components required? Draw deployment design for this system. **[4]**

b) Write short note on : **[9]**

i) Amazon Auto Scaling.

ii) Xively Cloud for IoT.

iii) Amazon EMR.

c) Explain WAMP protocol interaction between peers. **[4]**

OR

Q10)a) What is Django ? Explain model, template and view in Django. **[6]**

b) Describe the use of Amazon Kinesis for IoT. **[5]**

c) Discuss Air Pollution Monitoring system using IoT. Draw domain and controller model. **[6]**

✦✦✦✦