Hall Ticket No | | | | | | | | | | | Question Paper Code: BES209

INSTITUTE OF AERONAUTICAL ENGINEERING

(Autonomous)

M.Tech I Semester End Examinations (Regular) - February, 2017

Regulation: IARE–R16

EMBEDDED NETWORKING

(Embedded Systems)

Time: 3 Hours **Max Marks: 70**

Answer ONE Question from each Unit
All Questions Carry Equal Marks
All parts of the question must be answered in one place only

UNIT – I

1. (a) What is an embedded system? List protocols in embedded networking for bridges and routers. **[6M]**

   (b) Discuss serial peripheral interface and compare serial communication protocols RS 232 and RS 485 standards. **[8M]**

2. (a) Explain about inter integrated circuit (I2C) signals ,addressing and its transactions. **[7M]**

   (b) Draw and explain IEEE 1394 (Fire Wire) protocol architecture. **[7M]**

UNIT – II

3. (a) Explain data flow types in USB. **[7M]**

   (b) Explain the block Diagram of Receiver buffer of CAN. **[7M]**

4. (a) Draw and explain with neat diagram of USB interface with PIC 18 micro controller. **[8M]**

   (b) Calculate the timing parameters of CAN Bus with Oscillator clock rate is 20 MHz and CAN bit rate is 125 KHz. **[6M]**

UNIT – III

5. (a) Define Media system in IEEE 802.3 standard and explain Fibre – Optic Media systems. **[7M]**

   (b) Define IP address? Describe the Internet protocol layer in the Network protocol stack with a neat diagram. **[7M]**

6. (a) Explain fibre optic Transmitter and Receiver modules with neat diagrams. **[7M]**

   (b) Explain the following URL specifies a Resources **[7M]**
   http://www.example.com:80/data/testdata.htm

UNIT – IV

7. (a) Describe following functions with syntax related with UDP protocol **[6M]**
   i. udp_open( )
   ii. send_packet( )
   (b) List and discuss the four Rules for securing the devices and local network. **[8M]**

8. (a) Describe how the TCP is supported in Embedded system **[6M]**
   (b) Explain how embedded system sends and receives E-Mail , exchange file with (FTP) server. **[8M]**

UNIT – V

9. (a) Explain different topologies and list advantages and disadvantages of each topologies. **[7M]**
   (b) Define localization? Explain any two techniques to find node localization based on minimal information. **[7M]**

10. (a) Describe the MAC protocols are energy efficient. **[6M]**
    (b) Explain any two data centric routing protocols. **[8M]**