Reg. No.										

MANIPAL INSTITUTE OF TECHNOLOGY

MANIPAL

A Constituent Institution of Manipal University

SEVENTH SEMESTER B.TECH. (E & C) DEGREE END SEMESTER EXAMINATION
DECEMBER 2018/JANUARY 2019
SUBJECT: EMBEDDED NETWORKING (ECE - 4002)

TIME: 3 HOURS **MAX. MARKS: 50**

Instructions to candidates

- Answer **ALL** questions.
- Missing data may be suitably assumed.

1A. Explain the following with respect to I2C protocol:
i. NACK ii. Start and Stop conditions iii. Addressing

1B. Describe the Firewire interface used for high speed communication.

1C. Describe the functions of SPI signals. Explain the steps involved in data transmission between master and slave.

(3+3+4)

2A. Explain different types of bus termination methods used in CAN bus.

2B. Describe the isochronous data transfer method used in USB communication.

2C. Describe the following data transfer types in USB:
i. Interrupt transfer ii. Isochronous transfer

(3+3+4)

3A. Explain the followings used for interconnecting the devices in the Ethernet network.
i. Repeater Hubs ii. Ethernet Switches iii. Routers

3B. Describe the features of Rabbit Semiconductor RCM3200 module used for embedded networking application.

3C. Describe protocol stack with neat protocol layer model with respect to Ethernet.

(3+3+4)

4A. Describe Internet protocol header format.

4B. What is wireless Ethernet? Explain.

4C. With relevant diagram, explain the process involved in TCP connection establishment.

(3+3+4)

5A. Describe the medium access with collision avoidance protocol for WSN.

5B. Explain how lifetime of sensor node maximized using Power-aware routing protocol in WSN.

5C. Explain the functional blocks of wireless sensor node with neat diagram.

(3+3+4)