

Question Paper



MANIPAL UNIVERSITY

SCHOOL OF INFORMATION SCIENCES (SOIS)
SECOND SEMESTER MASTER OF ENGINEERING - ME (EMBEDDED AND WIRELESS
TECHNOLOGY)

DEGREE EXAMINATION - APRIL / MAY 2017

Monday, 24, 2017

Time : 10:00 AM - 1:00 PM

Wireless Embedded Systems [EWT 620]

Marks: 100

Duration: 180 mins.

Answer all the questions.

- 1) What is NFC? Explain the working principle of NFC with examples. (2+8) (10)
- 2) What is triangulation? Explain how triangulation helps in finding position in GPS. (3+7) (10)
- 3) What are profiles in Bluetooth? Explain the AT command and Vcard profile. (4+6) (10)
- 4) With a neat architectural diagram, explain layers and the features of Bluetooth. (10)
- 5) A. What are the available channel frequencies available in Zigbee? (3) (10)
B. Explain the network topology in Zigbee? (4)
C. Briefly explain the role of a) FFD b) RFD c) Coordinator. (3)
- 6) What do you mean by arbitration? In I2C how arbitration is handled. (4+6) (10)
- 7) In SPI protocol, explain the multiple slave communication with a neat figure. (10)
- 8) What do you mean by AMBA bus? Explain the three types of AMBA bus, briefly. (3+7) (10)
- 9) With a neat diagram explain the GPIO programming and the register involved. (10)
- 10) With a neat diagram explain the steps involved in compilation of a C program with respect to any embedded systems. (10)

