

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

M. E. - SEMESTER – I • EXAMINATION – SUMMER • 2013

Subject code: 715303

Date: 06-06-2013

Subject Name: Wireless Networks and Mobile Computing

Time: 10.30 am – 01.00 pm

Total Marks: 70

Instructions:

1. Attempt question 1, which is compulsory and answer any five from the rest questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right hand indicate the marks.

Q. No. 1

[2 Marks X 10 = 20 Marks]

- a. State types of services supported by 802.11 MAC.
- b. State any two applications of 802.11e standard.
- c. What is the difference between Piconets and Scatternets?
- d. Explain WLAN Topologies?
- e. Why is Frequency Hopping used in Bluetooth?
- f. What is ARQ? Where is it used?
- g. What do you mean by 'Modulation'?
- h. What is a 'Frequency Spectrum'?
- i. What are the different 'Multiple Access' techniques used in mobile communication?
- j. What are the different states of a Bluetooth device?

Q. No. 2

- a. Compare DCF & PCF in detail. [4 Marks]
- b. State the different types of services supported by 802.11 MAC [6 Marks]

Q. No. 3

- a. What are the main new features of 802.11e standard? [5 Marks]
- b. Compare the GSM and CDMA mobile networks. [5 Marks]

Q. No. 4

- a. What are the QoS limitations of 802.11 MAC? [5 Marks]
- b. What are the QoS limitations of DCF & PCF? [5 Marks]

Q. No. 5

- a. Explain EDCF (Enhanced Distributed Coordination Function) in details. [6 Marks]
- b. Explain ARQ error detection scheme used in Bluetooth. [4 Marks]

Q. No. 6

- a. Explain in detail how the mobility support is achieved in 802.11 WLAN. [6 Marks]
- b. Draw the overview of 802.11 protocol stack and explain. [4 Marks]

Q. No. 7

Draw & explain the protocol architecture of Bluetooth. [10 Marks]

Q. No. 8

Explain in detail Inquiry & the Paging Procedure in Bluetooth. [10 Marks]
