

MAY 2017 / 01.06.2017

3 Hours



QP CODE : 814500

[80 marks]

Note: 1. Question number 1 is **compulsory**.

2. Solve any **three** questions out of the remaining **five** questions
3. Assume suitable data if necessary
4. Figure indicate marks

- Q1. A. A mobile communication system is allocated RF spectrum of 25 MHz and uses RF channel bandwidth of 25 KHz so that total number of 1000 voice channels can be supported in the system. [10]
- a) If the service area is divided into 20 cells with a frequency reuse factor of 4, compute the system capacity.
 - b) The cell size is reduced to the extent that the service area is now covered with 100 cells. Compute the system while keeping the frequency reuse factor as 4.
 - c) Consider the cell size is further reduced to that the service area is now covered with 700 cells with the frequency reuse factor of 7. Compute the system capacity.
- B. Explain in detail EDGE Network Architecture with neat diagram. [10]
- Q2. A. Explain in detail GPRS Architecture with neat diagram. [10]
- B. Explain in detail CDMA Architecture with neat diagram. [10]
- Q3. A. Give in detail comparison between WiMax and LTE/3GPP. [10]
- B. Explain in detail Bluetooth Protocol Stack with neat diagram. [10]
- Q4. A. Neatly explain the WLL Architecture. Explain the two local loop techniques with diagram [10]
- B. Explain in detail GSM Privacy and Authentication with neat diagram. [10]
- Q5. A. Explain the main factors of change in economics of wireless technology. [10]
- B. Explain the Wired Equivalent Privacy Protocol. Also explain WEP security based on the access control list with neat diagram. [10]
- Q6. Write short notes: [20]
- a. Compare CDMA 2000 & W-CDMA
 - b. Mobile IP.
 - c. IEEE 802.11 standards.
 - d. Wireless Sensor Network.