

Roll No

[2]

MCA - 402-(Old)**MCA IV Semester**

Examination, December 2014

Mobile Communications*Time : Three Hours**Maximum Marks : 70*

Note: 1. Attempt any five questions.
2. All questions carry equal marks.

1. a) Describe the operation of a CDMA multiple accessing system and compare it with TDMA and FDMA.
b) Draw a basic cellular system. Explain its operation and performance criteria.
2. a) What is spread spectrum technique? Explain. Also describe and compare FHSS and DSSS.
b) Discuss and explain modulation techniques for mobile radio.
3. a) Describe frequency reuse. Why it is useful in cellular telephone system. Illustrate the cellular frequency reuse concept with the help of example.
b) Explain hand off mechanism. Explain and differentiate Soft hand off and Hard handoff.

4. a) Explain small scale fading and multipath fading and discuss their effects.
b) Explain in detail circuit switched data services and packet switched data services on Cellular Network
5. a) Describe GSM architecture. What is layer modeling explain in detail?
b) Give the detailed architecture of GPRS
6. a) Compare wireless LAN to a wired LAN also explain working principle of wireless LAN.
b) Explain and discuss Transmission media, Infrastructure and types of WLAN.
7. a) Describe architecture of Bluetooth Networks.
b) What is a VSAT system? Discuss its component and topologies.
8. Write short notes on any two of the following:
 - i) Frequency Hopping
 - ii) W-CDMA and CDMA-2000
 - iii) Infrared technology
 - iv) Wireless application protocol model
 - v) Wireless in Local Loop (WLL) architecture.
