

Roll No .....

**MEDC-205**

**M.E./M.Tech., II Semester**

Examination, December 2016

**Mobile And Satellite Communication**

*Time : Three Hours*

*Maximum Marks : 70*

- Note : i) Attempt any five questions.  
ii) All questions carry equal marks.

1. a) Discuss the principle of operation and components of a cellular mobile network.  
b) Discuss the concept of frequency reuse, explain is in context to cluster size of  $N$  with each cell allocated a group of  $k$  channels.
2. a) Discuss the concept of cell splitting and sectoring.  
b) Briefly discuss different handoff techniques.
3. a) Discuss about the popular speech codes.  
b) Discuss how to characterize a radio channel.
4. a) What is co-channel interference? What are the factors which contribute to increase it? How can it be reduced?  
b) Explain the propagation effects like scattering, ground reflection, fading and long normal shadowing.

5. a) Discuss the QAM technique for modulation used in mobile communication.  
b) Explain the least mean square adaptive equalization algorithm.
6. a) Discuss the principle working of frequency hopped spread spectrum technique.  
b) What are the advantages of spread spectrum technique?
7. a) Discuss about the ETSI-HILARAN type 1 MAC protocol.  
b) Give a brief overview of LEO satellite system.
8. Write short notes on any two of the following:
  - a) OFDM
  - b) Antenna positioning in GEO
  - c) Wide band CDMA

\*\*\*\*\*