



## COLLEGE OF ENGINEERING & TECHNOLOGY

Department : Electronics & Communication Engineering

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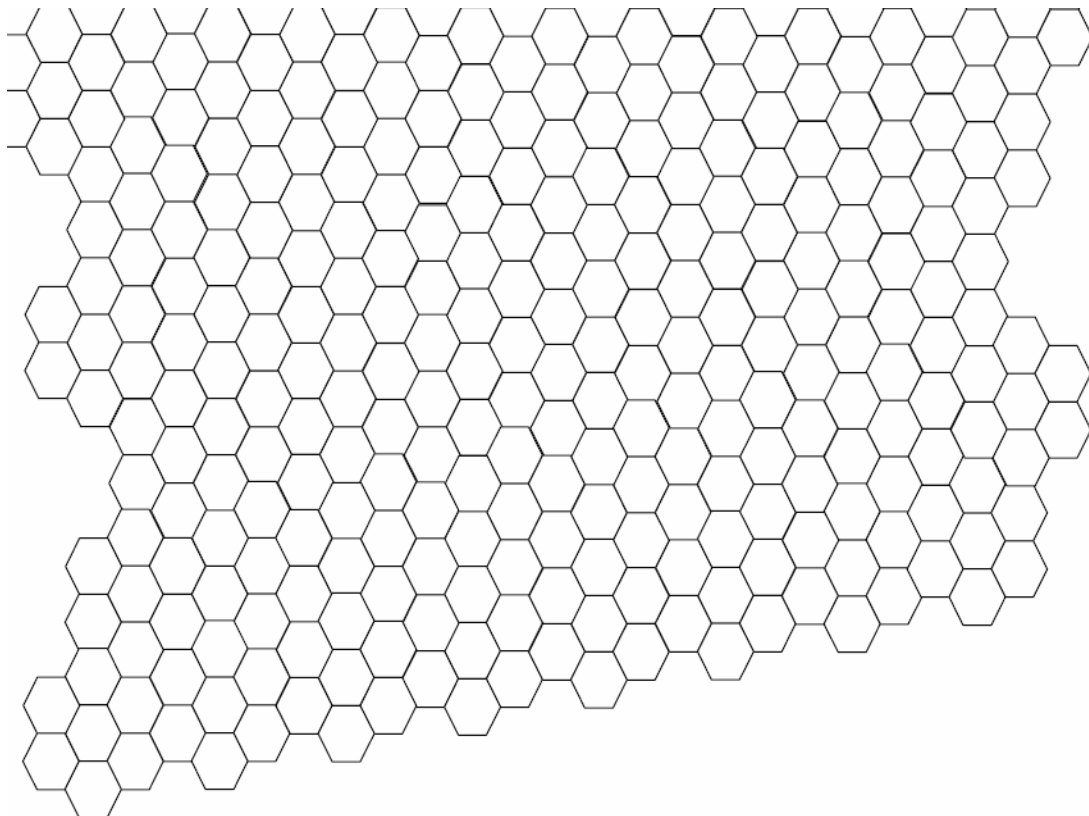
Course Title : Telecommunication Systems Engineering

Course Code : EC 551

### Sheet (6)

#### Cellular Communication System

1. A cellular network uses a frequency reuse factor of 9 and with 1000 channels available in the system. The radius of the cell is 1.5Km and the total coverage is 1200 Km.
  - a. Calculate the  $i$  and  $j$  values used in deciding the frequency reuse factor.
  - b. Find the total number of users that can be supported by the network.
  - c. Draw the cellular constellation for such network.



2. Repeat question one for frequency reuse 1, 3, 4, 12.
3. Calculate the SIR for a path loss 2 for each of the frequency reuse factors indicated above.