



Mobile Computing (CSD-422) Assignment-2

AS02/2020

SEMESTER-VIII

CLASS-Dual Degree(CSE) VIII Sem + B.Tech. (CSE) VIII Sem

All Assignment will be checked and evaluated by plagiarism software.

LAST DATE OF ONLINE SUBMISSION: 10/04/2020

Submit your assignment in pdf format with Name and roll No

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Attempt All Questions:

1. List out and explain how some of the internet properties of the wireless Adhoc networks introduce difficulties while implementing security in routing protocols.
- 2.

Question 1: (30 marks)

Consider a FDMA cellular system with 120 sites, a frequency reuse factor of $N=12$, and 900 overall two-way channels. Omni-directional antennas are used: Figure 1 shows some of the cells.

- (a) Find out the 12-cell cluster including cell A and its 11 neighboring cells, marked with B to L. (8 marks)
- (b) What is the co-channel reuse ratio? (4 marks)
- (c) Give the number of channels per cell, total number of channels available to the service provider, and the signal-to-interference ratio of the system. (6 marks)
- (d) To expand the network, we decide to create an underlay-overlay system where the new system uses a frequency reuse factor of $K=3$. Give the number of channels assigned to inner and outer cells to keep a uniform traffic density over the entire coverage area. What is the total number of channels available now? (12 marks)

Figure 1: cellular system architecture

