**CS 5197/6097 Wireless and Mobile Networking**

**Homework No. 5 dated Wednesday September 20, 2017**

**P 8.8** In a cellular system, with 7-cell clusters, has the following average number pf calls at a given time:

|  |  |
| --- | --- |
| Cell number | Average number of calls/unit time |
| 1 | 900 |
| 2 | 2000 |
| 3 | 2500 |
| 4 | 1100 |
| 5 | 1200 |
| 6 | 1800 |
| 7 | 1000 |

If the system is assigned 49 traffic channels, how would you distribute the channel if

1. Static allocation is used based on traffic load.
2. A FCA Simple borrowing scheme is used (no traffic load considered).

**Additional information for question:**

**Part (a) Based on traffic load**

**Part (b) FCA with simple borrowing (no traffic load considered)**

**P 8.18** In a cellular system with 4 channels, one channel is reserved for handoff calls.

1. What is the value of *BO* and *BH* , given *λ*O = *λ*H = 0.001 and *μ* = 0.0003?
2. What are the values of probabilities *P*(0), *P*(1), *P*(2), *P*(3) and *P*(4).
3. What is the average number of occupied channels in this Problem?