
CHAPTER 17

Cellular Telephone and Satellite Networks

Review Questions

1. A mobile switching center coordinates communications between a base station and a telephone central office.
3. A high reuse factor is better because the cells that use the same set of frequencies are farther apart (separated by more cells).
5. AMPS is an analog cellular phone system using FDMA.
7. GSM is a European standard that provides a common second-generation technology for all of Europe.
9. The three orbit types are equatorial, inclined, and polar.
11. A footprint is the area on earth at which the satellite aims its signal.
13. Transmission from the earth to the satellite is called the uplink. Transmission from the satellite to the earth is called the downlink.
15. The main difference between Iridium and Globalstar is the relaying mechanism. Iridium requires relaying between satellites. Globalstar requires relaying between relaying between satellites and earth stations.

Multiple-Choice Questions

17. b
19. d
21. c
23. d
25. d
27. a
29. a
31. a
33. d
35. d

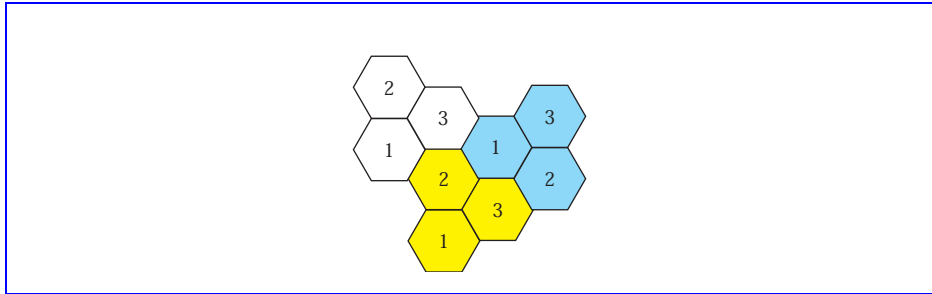
37. d

39. a

17.1 EXERCISES

41. See Figure 17.1.

Figure 17.1 *Exercise 41*



43. Almost 169

45. 1320

47. 6.76 callers per MHz

49. 52.8 callers per MHz

51. 150 slots/second for the system
50 slots/second for each user

53. 1536

55. 10.8 hours

57. 1.91 hours