# Test Bank for Wireless and Mobile Device Security 2nd Edition by Doherty

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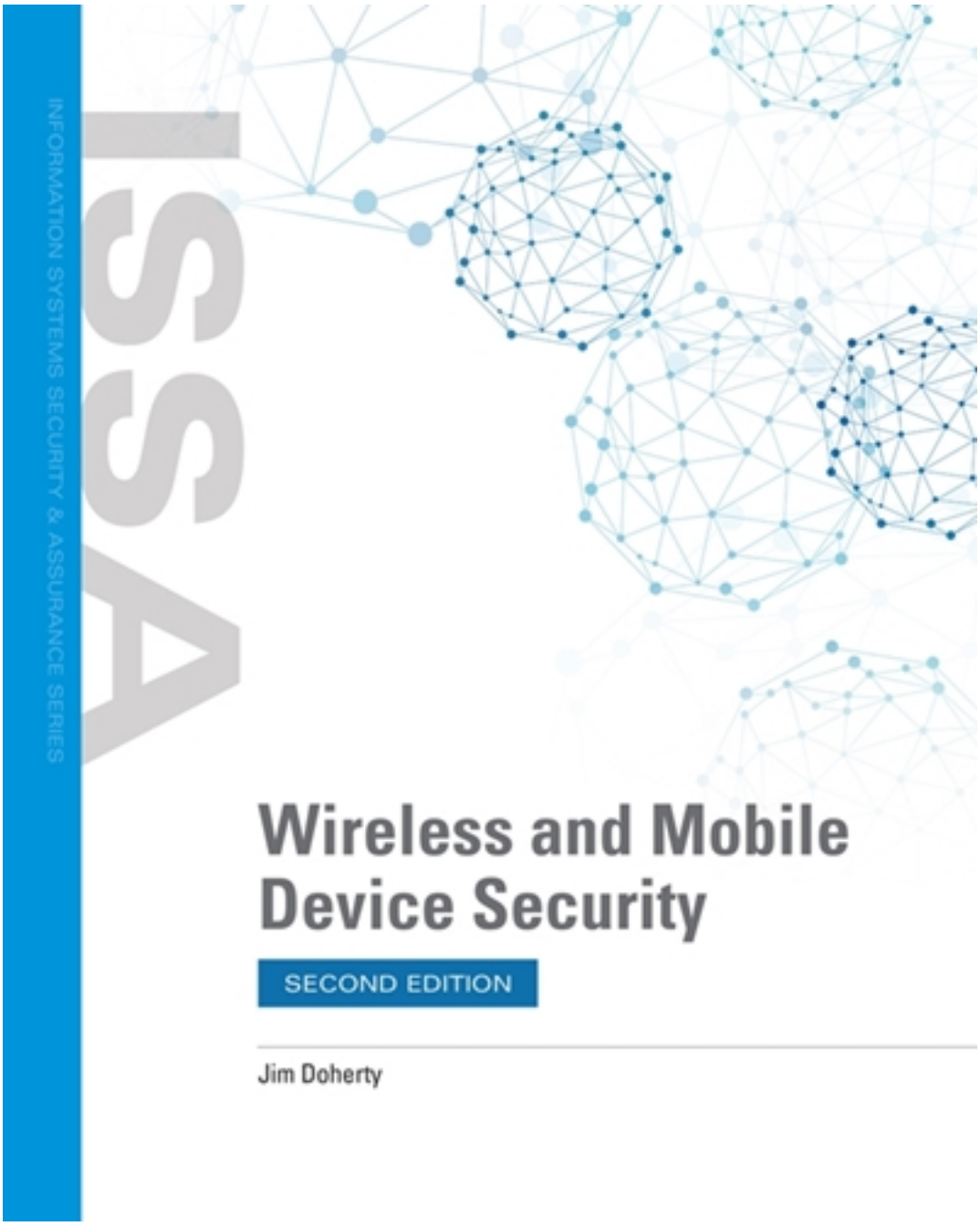


# Test Bank

Textbook title: Wireless and Mobile Device Security, Second Edition (Mobile2e)

Import Settings:
Base Settings: Brownstone Default
Information Field: Complexity
Information Field: Ahead
Information Field: Subject
Information Field: Title
Information Field: Feedback
Information Field: Taxonomy
Highest Answer Letter: D
Multiple Keywords in Same Paragraph: No
NAS ISBN13: 9781284211726, add to Ahead, Title tags

**Chapter: Chapter 02 - Quiz**

**Multiple Choice**

1. Because cell phones have low transmission power and range, they must communicate with a nearby receiver. In a cellular system, which of the following communicates directly with subscriber phones?
A) base controller station
B) base receiver station
C) base transceiver station
D) T3 trunk
Ans: C
Complexity: Medium
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: In each cell, there is an antenna array called a base transceiver station (BTS), which communicates directly with the subscriber phones within its coverage area.
Taxonomy: Analyze

2. Which of the following is *not* a characteristic of the first-generation cellular phones in the 1990s?
A) limited range
B) poor voice quality
C) short battery life
D) dense coverage
Ans: D
Complexity: Easy
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: First-generation cellular phones had limited coverage, as well as limited range, poor voice quality, and short battery life.
Taxonomy: Understand

3. Which method of frequency sharing in a cellular network depends on "empty space" on the channel when both participants in a voice conversation are silent?
A) Advanced Mobile Phone Systems (AMPS)
B) Code Division Multiple Access (CDMA)
C) Frequency Division Multiple Access (FDMA)
D) Time Division Multiple Access (TDMA)
Ans: D
Complexity: Hard
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: Time Division Multiple Access (TDMA) allows multiple users on the same frequency channel, each with its own sliver of time. This works well in a voice conversation because a phone conversation between two people is mostly silence. That means there's a lot of "empty space" on a channel even when it's in use.
Taxonomy: Understand

4. Which of the following best describes Frequency Division Multiple Access (FDMA)?
A) The frequency spectrum is divided among users.
B) Each user is assigned a time slot so packets from different communication sessions can occupy a shared frequency without interference.
C) Communication is spread over multiple frequencies at the same time with coding algorithms used to spread and then reassemble transmissions.
D) It occurs at the point when both neighbor frequency signals are at their lowest output.
Ans: A
Complexity: Hard
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: With FDMA, the frequency spectrum is divided among individual users.
Taxonomy: Analyze

5. Which of the following is most responsible for the use of the hexagonal (six-sided) cell design of cellular coverage maps?
A) cell phone transmission power
B) the public switched telephone network (PSTN)
C) the Internet
D) smartphone usage rates
Ans: A
Complexity: Medium
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: Because cellular phones are battery-powered, transmission power must be kept low. Low-transmission power limits the signal range, which means a receiver must be located nearby. A coverage map using small geographic sectors, or cells, each with its own antenna tower, provides the best coverage, leaving no gaps in the coverage plan.
Taxonomy: Analyze

6. Which of the following was created to solve frequency interference problems with early cellular coverage map design?

A) locating macrocells and microcells next to each other
B) splitting up or segmenting frequencies
C) locating macrocells and picocells next to each other
D) combining frequencies from adjacent cells
Ans: B
Complexity: Hard
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: If each cell uses the same sets of frequencies, users in two different cells on the same channel interfere with each other. The frequency reuse pattern solved the problem, designed so that no cell is adjacent to another that uses the same sets of frequencies.
Taxonomy: Analyze

7. In a cellular coverage design, _____ are cells within a mobile system for large coverage areas, needed for rural areas.
A) macrocells
B) microcells
C) picocells
D) hotspot cells
Ans: A
Complexity: Medium
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: Large cells called macrocells (that is, cells within a mobile system for large coverage areas) are needed for rural areas. Microcells (cells within a mobile system for small coverage areas) are needed for urban areas. Picocells (small hotspot cells offering Wi-Fi connectivity via a mobile carrier) are needed for dense urban areas.
Taxonomy: Understand

8. Which of the following is true of the cellular handover process?
A) It ensures that subscribers can pass out of the range of one transmitter and into the area of another without losing the connection.
B) It occurs at the point when both neighbor frequency signals are at their highest.
C) The mobile phone can be passed back and forth only once as the user remains on the border of two cells.
D) It usually occurs in the middle of a cell.
Ans: A
Complexity: Medium
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: Because mobile phones are mobile, cellular networks must be able to accommodate subscribers as they pass out of the range of one transmitter and into the area of another without losing the connection. This requires a controlled handoff from one base station to another, known as the handover process. It occurs at the point when both neighbor frequency signals are at their lowest, usually at the border between two cells. If the handover process is designed correctly, the mobile phone can be passed back and forth repeatedly as the user remains on the border of two cells.
Taxonomy: Evaluate

9. What makes it possible for several mobile users to share multiple frequency bands at the same time by spreading the signal out over the frequencies. Because it relies on lower-powered signals, however, it suffers from the "near-far" problem?
A) High Speed Downlink Packet Access (HSDPA)
B) Frequency Division Multiple Access (FDMA)
C) Time Division Multiple Access (TDMA)
D) Code Division Multiple Access (CDMA)
Ans: D
Complexity: Medium
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: CDMA makes it possible for several mobile users to share multiple frequency bands at the same time by spreading the signal out over the frequencies. Because it relies on lower-powered signals, however, it suffers from the "near-far" problem.
Taxonomy: Understand

10. Which breakthrough technology first allowed users to switch phones without carrier involvement?
A) Long-Term Evolution (LTE)
B) 3G service
C) Short Message Service (SMS)
D) the subscriber identity module (SIM) card
Ans: D
Complexity: Medium
Ahead: Evolution of Mobile Networks
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: One big breakthrough with GSM was the introduction of the subscriber identity module (SIM) card. Not only did SIM cards help to address the 1G system's cloning vulnerability, they also allowed users to switch phones without carrier involvement.
Taxonomy: Understand

11. What technology is most closely associated with augmented reality and virtual reality (AR and VR) mobile gaming?
A) 5G
B) 4G
C) 3G
D) 2G
Ans: A
Complexity: Easy
Ahead: Evolution of Mobile Networks
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: One of the promises of 5G is the ability to support mobile AR and VR gaming.
Taxonomy: Remember

12. The naming of generations of wireless technologies as "xG" began with which version?
A) 1G
B) 2G

C) 3G
D) 4G
Ans: C
Complexity: Easy
Ahead: Evolution of Mobile Networks
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: The "generation" naming convention, such as 1G, 2G, 3G, and 4G, did not come into vogue until the 3G systems came online in the mid-2000s. Even then, the original technologies were referred to as AMPS and D-AMPS. The 1G and 2G designations have been retroactively assigned.
Taxonomy: Remember

13. The first technology employing packet-switching, which allowed data sharing over mobile networks, was:
A) AMPS 1G.
B) GSM.
C) GPRS.
D) 4G technology.
Ans: C
Complexity: Medium
Ahead: Evolution of Mobile Networks
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: General Packet Radio Service (GPRS) was the first packet-switching technology method that allowed data sharing over mobile networks. Still considered a 2G technology but often called 2G1 or 2.5G, GPRS allowed access to some websites—although data rates proved to be too slow for what was becoming a growing need and expectation.
Taxonomy: Remember

14. The two systems deployed for which technology are Mobile Worldwide Interoperability for Microwave Access (WiMAX) and Long-Term Evolution (LTE)?
A) 1G
B) 2G
C) 3G
D) 4G
Ans: D
Complexity: Medium
Ahead: Evolution of Mobile Networks
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: The two systems currently deployed for 4G are WiMAX and LTE.
Taxonomy: Understand

15. Which cellular network first used network authentication, which ensured that users connected to the correct network?
A) 2G
B) 3G
C) 4G
D) 5G
Ans: B

Complexity: Medium
Ahead: The Evolution of Mobile Networks
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: In addition to the security benefits of 2G, such as encryption, 3G systems also allowed for network authentication, which ensured that users connected to the correct network.
Taxonomy: Remember

16. Which of the following is a packet-switched technology?
A) General Packet Radio Service (GPRS)
B) Advanced Mobile Phone System (AMPS)
C) Global System for Mobile (GSM)
D) Code Division Multiple Access (CDMA)
Ans: A
Complexity: Medium
Ahead: The Evolution of Mobile Networks
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: GPRS was the first packet-switching technology method that allowed data sharing over mobile networks. AMPS used analog signals to connect to cell towers, and GSM and CDMA were circuit-switched technologies.
Taxonomy: Understand

17. Which company/phone type was the first to use a special server that enabled mobile devices to receive "push" emails from Microsoft Exchange Server, which meant that users could send and receive emails no matter where they were?
A) Android
B) Apple
C) BlackBerry
D) AT&T
Ans: C
Complexity: Easy
Ahead: The Blackberry Effect and BYOD Revolution
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: BlackBerry developed the BlackBerry Enterprise Server (BES) in 1999. The BES enabled BlackBerry devices to receive "push" emails from Microsoft Exchange Server, which meant that users could send and receive emails no matter where they were (assuming they had cell coverage, which by then was nearly everywhere).
Taxonomy: Remember

18. Several advancements in cellular technology improve bandwidth and capacity to handle simultaneous calls. Which breakthrough 3G technology first supported streaming music and video on cellular devices?
A. High Speed Downlink Packet Access (HSDPA)
B. Global System for Mobile (GSM)
D. Code Division Multiple Access (CDMA)
D. Digital Advanced Mobile Phone System (D-AMPS)
Ans: A
Complexity: Medium
Ahead: The Business Impact of Mobility

Subject: Chapter 2
Title: The Mobile Revolution
Feedback: The mobile protocol HSDPA allowed for devices to stream music and video for the first time. Data rates were raised to about 14 Mbps. HSDPA was an improvement to the 3G cellular system. CDMA and GSM are both 2G technologies. D-AMPS was an advancement to the 2G system, improving bandwidth, but not the point of streaming music.
Taxonomy: Remember

19. Four different companies recently adopted a bring your own device (BYOD) policy. Which of the following types of employees would provide the least return on investment given the added availability?
A) airline pilot
B) knowledge worker
C) doctor
D) project manager
Ans: A
Complexity: Hard
Ahead: The Business Impact of Mobility
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: The boasted high return on investment comes from increased availability and thus more opportunity to be productive. Occupations such as ferry captain and airline pilot are restricted by obvious limits, so having added availability does not increase their productivity. The last three positions can benefit from staying connected. Additional productive time directly translates to a reduced hourly labor cost.
Taxonomy: Apply

20. A local cellular provider upgrades from 3G to 4G. Security experts and critics have known concerns about Diameter, the signaling protocol used in 4G. What might be a potential impact from those concerns?
A) identity theft of the device's user
B) loss of signal for the user
C) changing personal information stored on the device
D) inability to receive "push" emails
Ans: A
Complexity: Hard
Ahead: The Evolution of Mobile Networks
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: Diameter is the authentication method used to replace Signaling System 7 (SS7) when migrating from 3G to 4G. Critics of Diameter say it is vulnerable to revealing users' personal information or hijacking. As a strong threat to confidentiality, either could lead to identity theft.
Taxonomy: Evaluate

**True/False**

1. True or False? From the perspective of mobile communications, the term "cellular" refers to the portioning of frequency coverage maps.
Ans: True

Complexity: Medium
Ahead: Introduction to Cellular (Mobile Communication)
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Feedback:
Taxonomy:

2. True or False? In mobile communications cellular design, each cell has its own antenna tower.
Ans: True
Complexity: Medium
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback:
Taxonomy:

3. True or False? Time Division Multiple Access (TDMA) allowed for rapid subscriber expansion from the original analog cell systems to digital without expensive upgrades to the system itself.
Ans: True
Complexity: Hard
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback:
Taxonomy:

4. True or False? In cellular technology, the near-far problem refers to when a receiver locks onto a weak signal from a nearby source, preventing it from detecting a wanted signal from a source that is farther away (and therefore stronger).
Ans: False
Complexity: Hard
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: The near-far problem refers to when a receiver locks onto a strong signal from a nearby source, preventing it from detecting a wanted signal from a source that is farther away (and therefore weaker).
Taxonomy:

5. True or False? In a cellular coverage design, another term for the antenna array (cell tower) is a base controller station (BCS).
Ans: False
Complexity: Medium
Ahead: Introduction to Cellular (Mobile Communication)
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Feedback: In each coverage map cell is an antenna array called a base transceiver station (BTS), which communicates directly with the subscriber phones within its coverage area.

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Taxonomy:

6. True or False? In cellular communications, picocells are needed for dense urban areas.
Ans: True
Complexity: Medium
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback:
Taxonomy:

7. True or False? Code Division Multiple Access (CDMA) and Global System for Mobile (GSM) are not compatible, but dual-system phones can operate on either system.
Ans: True
Complexity: Hard
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback:
Taxonomy:

8. True or False? Typically, multiple cell phone towers connect to a single base controller station (BCS).
Ans: True
Complexity: Medium
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback:
Taxonomy:

9. True or False? In cellular design, if each cell uses different frequencies, users in two different cells on the same channel interfere with each other.
Ans: False
Complexity: Medium
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: In cellular design, if each cell uses the same sets of frequencies, users in two different cells on the same channel interfere with each other.
Taxonomy:

10. True or False? A SIM card is a small smart card that fits into a slot on a mobile phone and contains the subscriber's information.
Ans: True
Complexity: Easy
Ahead: Introduction to Cellular (Mobile Communication)

Year revised: 2021

Subject: Chapter 2
Title: The Mobile Revolution
Feedback:
Taxonomy:

11. True or False? In cellular design, microcells are needed for rural areas.
Ans: False
Complexity: Medium
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: In cellular design, macrocells are needed for rural areas.
Taxonomy:

12. True or False? A cellular tower communicates over a backhaul circuit either originally on fixed-line T1/E1 trunks or on point-to-point microwave links to a base controller station (BCS).
Ans: True
Complexity: Hard
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback:
Taxonomy:

13. True or False? Because Code Division Multiple Access (CDMA) has multiple signals on the same frequency, the near–far problem creates a frequency jam.
Ans: True
Complexity: Hard
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback:
Taxonomy:

14. True or False? In cellular design, a frequency reuse pattern refers to the practice of assigning multiple users to the same frequency channel.
Ans: True
Complexity: Hard
Ahead: Introduction to Cellular (Mobile Communication)
Subject: Chapter 2
Title: The Mobile Revolution
Feedback:
Taxonomy:

15. True or False? In cellular design, a base controller station (BCS) connects to the core cellular network.

Ans: True
Complexity: Hard
Ahead: Introduction to Cellular (Mobile Communication)
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Title: The Mobile Revolution
Feedback:
Taxonomy:

16. True or False? 4G technology enables voice communications to be converted to Voice over IP (VoIP) with high quality.
Ans: True
Complexity: Medium
Ahead: The Evolution of Mobile Networks
Subject: Chapter 2
Title: The Mobile Revolution
Feedback:
Taxonomy:

17. True or False? The big change from 1G to 2G was the conversion from digital to analog.
Ans: False
Complexity: Easy
Ahead: The Evolution of Mobile Networks
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: The big change from 1G to 2G was the conversion from analog to digital.
Taxonomy:

18. True or False? 4G uses a signaling protocol called Signaling System 7 (SS7) to set up calls and mobile data sessions.
Ans: False
Complexity: Hard
Ahead: The Evolution of Mobile Networks
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: 4G uses a signaling protocol called Diameter to set up calls and mobile data sessions.
Taxonomy:

19. True or False? More than any other company, BlackBerry got companies and government organizations accustomed to the idea of employees having mobile devices.
Ans: True
Complexity: Easy
Ahead: The BlackBerry Effect and the BYOD Revolution
Subject: Chapter 2
Title: The Mobile Revolution
Feedback:
Taxonomy:

20. True or False? The rate of data consumption on mobile devices is beginning to decrease.
Ans: False
Complexity: Easy
Ahead: The Economic Impact of Mobile IP
Subject: Chapter 2
Title: The Mobile Revolution
Feedback: The rate of data consumption on mobile devices is accelerating.
Taxonomy: