- 1. Which layer of the GSM architecture is responsible for encryption and decryption of user data?
- a) Physical Layer
- b) Data Link Layer
- c) Network Layer
- d) Ciphering Layer

Answer: d) Ciphering Layer

Explanation: The Ciphering Layer, located within the GSM's Data Link Layer, is responsible for encrypting and decrypting user data to ensure secure transmission over the air interface.

- 2. In GSM, which channel is primarily used for carrying user speech and data?
- a) Broadcast Control Channel (BCCH)
- b) Dedicated Control Channel (DCCH)
- c) Traffic Channel (TCH)
- d) Common Control Channel (CCCH)

Answer: c) Traffic Channel (TCH)

Explanation: Traffic Channels (TCH) in GSM are used for carrying user speech and data traffic between the mobile device and the base station.

- 3. What is the primary multiple access scheme used in GSM?
- a) Frequency Division Multiple Access (FDMA)
- b) Time Division Multiple Access (TDMA)
- c) Code Division Multiple Access (CDMA)
- d) Space Division Multiple Access (SDMA)

Answer: b) Time Division Multiple Access (TDMA)

Explanation: GSM employs TDMA, where each user is assigned a specific time slot within a frequency channel for transmitting and receiving data.

- 4. In CDMA systems, what is the term used to describe the process of reducing interference from other users?
- a) Spread Spectrum
- b) Power Control
- c) Frequency Hopping
- d) Soft Handoff

Answer: b) Power Control

Explanation: Power Control is a technique used in CDMA systems to adjust the transmission power of mobile devices dynamically, minimizing interference and improving overall system capacity.

- 5. What modulation characteristic is commonly used in CDMA systems?
- a) Frequency Modulation (FM)
- b) Amplitude Modulation (AM)
- c) Phase Shift Keying (PSK)
- d) Direct Sequence Spread Spectrum (DSSS)

Answer: d) Direct Sequence Spread Spectrum (DSSS)

Explanation: CDMA systems typically employ DSSS modulation, where the data signal is spread over a wide frequency band using a pseudorandom noise sequence.

6. Which mobile system is known for its Time Division Duplexing (TDD) scheme?

- a) GSM
- b) CDMA
- c) PDC
- d) TETRA

Answer: d) TETRA

Explanation: TETRA (Terrestrial Trunked Radio) utilizes TDD, allowing for the transmission and reception of signals on the same frequency band but at different times.

- 7. What is the primary access method used in cordless phone systems?
- a) FDMA
- b) TDMA
- c) CDMA
- d) Frequency Hopping

Answer: d) Frequency Hopping

Explanation: Cordless phone systems typically employ frequency hopping to mitigate interference and provide secure communication between the handset and base station.

- 8. Which mobile system is associated with the Personal Digital Cellular (PDC) standard?
- a) GSM
- b) CDMA
- c) PDC
- d) PCS

Answer: c) PDC

Explanation: PDC (Personal Digital Cellular) is a mobile communication standard primarily

used in Japan, offering digital voice and data services.

- 9. In PCS (Personal Communications Service) systems, what frequency range is typically used?
- a) 800 MHz
- b) 900 MHz
- c) 1800 MHz
- d) 1900 MHz

Answer: d) 1900 MHz

Explanation: PCS systems operate within the 1900 MHz frequency band and are commonly used for mobile communication services in North America.

- 10. Which mobile system is an example of a non-cellular system?
- a) GSM
- b) CDMA
- c) Satellite Communication
- d) LTE

Answer: c) Satellite Communication

Explanation: Satellite communication systems operate using satellites in orbit to relay signals between mobile devices, making them an example of non-cellular mobile systems.