Digital Modulation Techniques

1. In QAM, both ______ of a carrier frequency are varied.
   - A) frequency and amplitude
   - B) phase and frequency
   - C) amplitude and phase
   - D) none of the above

2. If the baud rate is 400 for a QPSK signal, the bit rate is ______ bps.
   - A) 100
   - B) 400
   - C) 800
   - D) 1600

3. If the bit rate for an ASK signal is 1200 bps, the baud rate is ______.
   - A) 300
   - B) 400
   - C) 600
   - D) 1200

4. If the bit rate for an FSK signal is 1200 bps, the baud rate is ______.
   - A) 300
   - B) 400
   - C) 600
   - D) 1200
5. If the bit rate for a 16-QAM signal is 4000 bps, what is the baud rate?

- A) 300
- B) 400
- C) 1000
- D) 1200

6. If the baud rate for a 64-QAM signal is 2000, what is the bit rate?

- A) 300
- B) 400
- C) 1000
- D) 12000

7. In ________, the amplitude of the carrier signal is varied to create signal elements. Both frequency and phase remain constant.

- A) ASK
- B) PSK
- C) FSK
- D) QAM

8. In ________, the frequency of the carrier signal is varied to represent data. Both peak amplitude and phase remain constant.

- A) ASK
- B) PSK
- C) FSK
- D) QAM

9. In ________, the phase of the carrier is varied to represent two or more different signal elements. Both peak amplitude and frequency remain constant.

- A) ASK
- B) PSK
- C) FSK
- D) QAM
A constellation diagram shows us the ________ of a signal element, particularly when we are using two carriers (one in-phase and one quadrature).

- **A)** amplitude and phase
- **B)** amplitude and frequency
- **C)** frequency and phase
- **D)** none of the above

Quadrature amplitude modulation (QAM) is a combination of ________.

- **A)** ASK and FSK
- **B)** ASK and PSK
- **C)** PSK and FSK
- **D)** none of the above

________ uses two carriers, one in-phase and the other quadrature.

- **A)** ASK
- **B)** PSK
- **C)** FSK
- **D)** QAM

How many carrier frequencies are used in BASK?

- **A)** 2
- **B)** 1
- **C)** 0
- **D)** none of the above

How many carrier frequencies are used in BFSK?

- **A)** 2
- **B)** 1
- **C)** 0
- **D)** none of the above
15 How many carrier frequencies are used in BPSK?

A) 2
B) 1
C) 0
D) none of the above

16 How many carrier frequencies are used in QPSK?

A) 2
B) 1
C) 0
D) none of the above

17 The constellation diagram of BASK has ______ dots.

A) 2
B) 1
C) 0
D) none of the above

18 The constellation diagram of BPSK has ______ dots.

A) 2
B) 1
C) 0
D) none of the above

19 The constellation diagram of QPSK has ______ dots.

A) 2
B) 1
C) 4
D) none of the above
The constellation diagram of 16-QAM has ______ dots.

A) 4  
B) 16  
C) 8  
D) none of the above