All the Multiple Choice Question and Answer (MCQs) have been compiled from the books of Data Communication and Networking by the well known author *behrouz A forouzan*.

This Data Communication and Networking – **Bandwidth Utilization: Multiplexing and Spreading** multiple choice based questions and answers PDF cover the below lists of topic.

1. Frequency division multiplexing (FDM) Multiple Choice Question and Answer.
2. Wave division multiplexing (WDM) Multiple Choice Question and Answer.
3. Time division multiplexing (TDM) Multiple Choice Question and Answer.

**Bandwidth Utilization: Multiplexing and Spreading multiple choice questions and answers MCQ Set-1**

**1. The sharing of a medium and its link by two or more devices is called _____.**
    A. modulation
    B. encoding
    C. line discipline
    D. multiplexing

**2. Which multiplexing technique transmits analog signals?**
    A. FDM
    B. TDM
    C. WDM
    D. (a) and (c)

**3. Which multiplexing technique transmits digital signals?**
    A. FDM

B. TDM

C. WDM

D. None of the above

## 4. Which multiplexing technique shifts each signal to a different carrier frequency?

A. FDM

B. TDM

C. Both (a) and (b)

D. None of the above

## 5. In synchronous TDM, for n signal sources of the same data rate, each frame contains _____ slots.

A. n

B. n + 1

C. n - 1

D. 0 to n

## 6. In TDM, the transmission rate of the multiplexed path is usually _____ the sum of the transmission rates of the signal sources.

A. greater than

B. less than

C. equal to

D. not related to

## 7. Which multiplexing technique involves signals composed of light beams?

A. FDM

B. TDM

C. WDM

D. none of the above

**8. _____ utilization is the use of available bandwidth to achieve specific goals.**
   A. Frequency
   B. Bandwidth
   C. Amplitude
   D. None of the above

**9. _____ can be achieved by using multiplexing; _____ can be achieved by using spreading.**
   A. Efficiency; privacy and antijamming
   B. Privacy and antijamming; efficiency
   C. Privacy and efficiency; antijamming
   D. Efficiency and antijamming; privacy

**10. _____ is the set of techniques that allows the simultaneous transmission of multiple signals across a single data link.**
   A. Demodulating
   B. Multiplexing
   C. Compressing
   D. None of the above

| Answer key for MCQ SET- 1 | |
|---|---|
| Q-1 | Correct Answer :multiplexing |
| Q-2 | Correct Answer :(a) and (c) |
| Q-3 | Correct Answer :TDM |
| Q-4 | Correct Answer :FDM |
| Q-5 | Correct Answer :n |

| Q-6 | Correct Answer :greater than |
|------|------------------------------|
| Q-7 | Correct Answer :WDM |
| Q-8 | Correct Answer :Bandwidth |
| Q-9 | Correct Answer :Efficiency; privacy and antijamming |
| Q-10 | Correct Answer :Multiplexing |

## Bandwidth Utilization: Multiplexing and Spreading multiple choice questions and answers MCQ Set-2

**1. In a multiplexed system, __ lines share the bandwidth of ____ link.**
   A. 1; n
   B. 1; 1
   C. n; 1
   D. n; n

**2. The word _____ refers to the portion of a _____ that carries a transmission**
   A. channel; link
   B. link; channel
   C. line; channel
   D. line; link

**3. _____ can be applied when the bandwidth of a link (in hertz) is greater than the combined bandwidths of the signals to be transmitted.**
   A. TDM
   B. FDM
   C. Both (a) or (b)
   D. Neither (a) or (b)

**4. FSM is an _____technique**
   A. analog
   B. digital
   C. either (a) or (b)
   D. none of the above

**5. ____ is designed to use the high bandwidth capability of fiber-optic cable.**
   A. FDM
   B. TDM
   C. WDM
   D. None of the above

**6. _____ is an analog multiplexing technique to combine optical signals.**
   A. FDM
   B. TDM
   C. WDM
   D. None of the above

**7. _____ is a digital process that allows several connections to share the high bandwidth of a link.**
   A. FDM
   B. TDM
   C. WDM
   D. None of the above

**8. ____ is a digital multiplexing technique for combining several low-rate channels into one high-rate one**

A. FDM
B. TDM
C. WDM
D. None of the above

**9. We can divide _____ into two different schemes: synchronous or statistical**
   A. FDM
   B. TDM
   C. WDM
   D. none of the above

**10. In _____ TDM, each input connection has an allotment in the output even if it is not sending data.**
   A. synchronous
   B. statistical
   C. isochronous
   D. none of the above

| Answer key for MCQ SET- 2 | |
| --- | --- |
| Q-1 | Correct Answer :n; 1 |
| Q-2 | Correct Answer :channel; link |
| Q-3 | Correct Answer :FDM |
| Q-4 | Correct Answer :analog |
| Q-5 | Correct Answer :WDM |
| Q-6 | Correct Answer :WDM |
| Q-7 | Correct Answer :TDM |
| Q-8 | Correct Answer :TDM |

| Q-9 | Correct Answer :TDM |
| Q-10 | Correct Answer :synchronous |