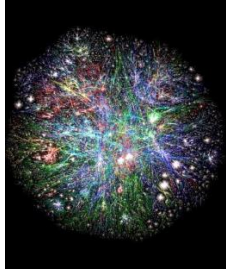


***Business Data Communications and IT
Infrastructures 2nd edition Agrawal Test Bank***

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Question bank accompanying Business Data Communications and IT Infrastructures

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Chapter 2 – Physical Layer

1. Signaling is

- a) Converting data to signals for transmission over physical media
- b) The transmission path over which information propagates
- c) Wiring cables between locations
- d) Combining multiple signals for transmission over one medium

Answer: (a)

Easy

2. A Signal is

- a) Information added to data to remove errors
- b) Detectable transmitted energy that can be used to carry information
- c) Cables connecting networked locations
- d) Converting data to signals for transmission over physical media

Answer: (b)

Easy

3. The only layer in the TCP/ IP stack that deals with the limitations of nature is

- a) The Data link layer
- b) The Network layer
- c) The Physical layer
- d) The Transport layer

Answer: (c)

Easy

4. Signals in copper wire are transmitted as

- a) Sound signals
- b) Light signals
- c) Smoke signals

- d) Electrical signals

Answer: (d)

Easy

5. A physical medium is

- a) The transmission path over which a signal propagates
- b) The method of combining multiple signals for transmission over one medium
- c) Used to convert data to signals for transmission
- d) Detectable transmitted energy that can be used to carry information

Answer: (a)

Easy

6. The term UTP stands for

- a) Unshielded telephone pair
- b) Unshielded twisted pair
- c) Uncovered twisted pair
- d) Uncovered telephone pair

Answer: (b)

Easy

7. Cat 5 cable has _____ wires

- a) 4
- b) 6
- c) 8
- d) 10

Answer: (c)

Difficult

8. As a physical medium, copper possesses all of the following properties, except

- a) Copper is relatively abundant
- b) Copper is a good conductor of electricity
- c) Copper is relatively inexpensive
- d) Copper can transmit information over very long distances

Answer: (d)

Easy

9. Cat 5 cable is terminated using connectors called

- a) RJ 45 connectors
- b) RJ 11 connectors
- c) RJ 19 connectors

- d) RJ 54 connectors

Answer: (a)

Moderate

10. Single mode fiber is preferred over multi-mode fiber for short distances

- a) True
- b) False

Answer: (b)

Difficult

11. As a physical medium, optical fiber possesses all of the following properties, except

- a) It is relatively light in weight
- b) It can carry signals for long distances without the need for repeaters
- c) It is as robust as copper in withstanding abuse
- d) It is relatively inexpensive

Answer: (c)

Easy

12. Data is converted to signals for transmission because

- a) Data is expensive to transport over physical media
- b) Signals are inexpensive to transport over physical media
- c) Network carriers prefer to transport signals
- d) There is no known method to transport data over physical media

Answer: (d)

Moderate

13. Good signals have all the following properties except

- a) Good signals do not need to be multiplexed
- b) Good signals are efficient at using bandwidth
- c) Good signals are resistant to noise
- d) Good signals are easy to detect at the receiver's end

Answer: (a)

Easy

14. Amplitude is a measure of

- a) The number of cycles made by a sine wave in one second
- b) The height of a sine wave
- c) The position of a sine wave at the start time
- d) None of the above

Answer: (b)

Easy

15. Modulation is the process of

- a) Spinning a wheel to generate a sine wave
- b) Increasing the amplitude of a sine wave
- c) Changing one or more properties of a sine wave in response to data
- d) Increasing the frequency of a sine wave

Answer: (c)

Difficult

16. Quadrature amplitude modulation

- a) Is another name for amplitude modulation
- b) Combines amplitude modulation with frequency modulation
- c) Is another name for frequency modulation
- d) Combines amplitude modulation with phase modulation

Answer: (d)

Difficult

17. Binary signals are preferred over other forms of signals (ternary, decimal etc) because

- a) Binary signals are the easiest to detect reliably by the receiver
- b) Binary signals can carry the most amount of information in a given time period
- c) Binary signals are the fastest known means of transmitting data
- d) Binary signals are the easiest to generate for the sender

Answer: (a)

Moderate

18. A bit

- a) Transforms elements from one set of elements to another set
- b) Is the unit of information that designates one of two possible states
- c) Generates sine waves for transmission over a medium
- d) Changes one or more properties of a sine wave in response to data

Answer: (b)

Easy

19. Coding is

- a) The unit of information
- b) The generation of sine waves for transmission over a medium
- c) The transformation of elements from one set of elements to another set
- d) Changing one or more properties of a sine wave in response to data

Answer: (c)

Moderate

20. Noise is

- a) The transformation of elements from one set of elements to another set
- b) The generation of sine waves for transmission over a medium
- c) Changing one or more properties of a sine wave in response to data
- d) Any disturbance that interferes with the normal operation of a device

Answer: (d)

Easy

21. The ASCII code is used to encode

- a) Characters in the English alphabet
- b) Characters in the Chinese language
- c) Characters in all languages
- d) Characters in most languages spoken around the world

Answer: (a)

Difficult

22. Unicode is used to encode

- a) Characters in the English alphabet only
- b) Characters in most languages
- c) Characters in the Chinese language only
- d) Characters in the 5 most common languages spoken around the world

Answer: (b)

Difficult

23. In TDM

- a) Signals from each channel are sent at a specified frequency
- b) Signals from each channel are sent at a specified amplitude
- c) Signals from each channel are sent at a specified time
- d) Signals from each channel are sent at a specified phase

Answer: (c)

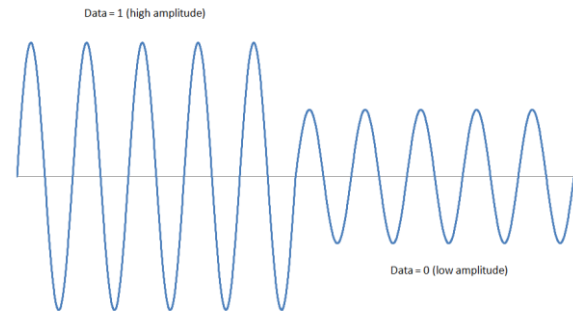
Easy

24. In FDM

- a) Signals from each channel are sent at a specified amplitude
- b) Signals from each channel are sent at a specified phase
- c) Signals from each channel are sent at a specified time
- d) Signals from each channel are sent at a specified frequency

Answer: (d)**Easy****25. The figure shows an example of**

- a) Digital data transmitted using an analog signal
- b) Digital data transmitted using a digital signal
- c) Analog data transmitted using a digital signal
- d) Analog data transmitted using an analog signal

**Answer: (a)****Difficult**

26. Consider two communication technologies that share the same medium (therefore assume that the SNR is the same in both technologies). Technology B uses twice the bandwidth of technology A. If technology A has a data rate of 50kbps, technology B has a data rate of

- a) 50kbps
- b) 100kbps
- c) 55kbps
- d) Cannot be estimated with the available data

Answer: (b)**Difficult**

27. Consider two communication technologies that use the same bandwidth, but Technology B has twice the SNR of technology A. If technology A has an SNR of about 1,000 and a data rate of about 50kbps, technology B has a data rate of

- a) 50kbps
- b) 100kbps
- c) 55kbps
- d) Cannot be estimated with the available data

Answer: (c)**Difficult**