Subject Name: Data and Digital Communications (Data Communications) **Module**: 2

Quarter: Prelim

Identification: (Sa ubos magtuon)

1. _____- must be transformed to electromagnetic signals.
2. _____- classified as either analog (or continuous time) or digital (or discrete time).
3. _____- which include speech, audio, and video, have an infinite number of values.
4. _____- predominantly binary in nature and thus are represented by two (2) values or bits: 0 and 1.
5. _____– It completes a pattern within a measurable time frame, called a period, and repeats that pattern over subsequent identical periods.
6. _____– It changes without exhibiting a pattern or cycle that repeats over time.
7. _____- directly related to the frequency of a given waveform.
8. _____- refers to the number of waves that pass a given point in each time period and is often expressed in terms of hertz (***Hz***) or cycles per second.
9. _____- is a measure of how big the wave is.
10. _____- a contraction of the word's "modulator" and "demodulator."
11. _____- the process of converting data into radio waves by adding information to an electronic or optical carrier signal.
12. _____– It is the modulation technique in which carrier amplitude varies based on analog baseband information signal to be transmitted in a wireless medium.
13. _____– It is the modulation technique in which carrier frequency varies based on analog baseband information signal to be transmitted in a wireless medium.
14. _____ – It is the modulation technique in which the carrier phase varies based on analog baseband information signal to be transmitted in a wireless medium.
15. _____- This method is used to convert an analog signal, such as voice and video, into a digital signal.
16. _____- converts the analog value to a digital (binary) equivalent.
17. _____- lays out of the analog signal in a graph.
18. The sampling process essentially converts analog amplitudes to discrete levels and is a type of modulation called _____.
19. _____- means to approximate the amplitude value of a pulse to the nearest integer on a predefined set of permitted integers.
20. _____- layers the discrete signal in the analog signal with less margin of error.

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21. _____- converts discrete signals into highs (1) and lows (0), making these the binary equivalent of a time-bound discrete signal.
22. _____ - the process of converting digital data into digital signals.
23. _____– The strength of a signal decreases as it travels along a transmission medium.
24. _____– It is usually defined as an unwanted signal that is superimposed on a desired signal.
25. _____- the noise that is caused by such natural atmospheric phenomena as lightning discharge in thunderstorms and other electrical disturbances that occur in nature.
26. _____- an electromagnetic (EM) noise that is caused by human activities, which are associated with the use of electrical equipment.
27. _____- the noise that comes from outside the earth and includes solar noise and cosmic noise.
28. _____- the noise that originates from the sun.
29. _____- generated by distant stars.
30. _____- occurs in electrical conductors and is caused by the thermal agitation of the charges in the material.
31. _____- the ratio of the magnitude of the signal to that of the noise.
32. _____- arises from the time-dependent fluctuations in electrical current.
33. _____– It refers to the change or alteration of an object. Thus, in terms of data transmission, distortion means that the signal changes its form or shape.
34. _____- a phenomenon that is peculiar to guided transmission media.
35. _____- It is often useful to have a quantitative method for describing the quality of a signal in terms of its corruption by noise.

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Answer Key:

1. **Data** - must be transformed to electromagnetic signals.
2. **signal-converted data** - classified as either analog (or continuous time) or digital (or discrete time).
3. **Analog signals** - which include speech, audio, and video, have an infinite number of values.
4. **Digital signals** - predominantly binary in nature and thus are represented by two (2) values or bits: 0 and 1.
5. **Periodic signal** – It completes a pattern within a measurable time frame, called a period, and repeats that pattern over subsequent identical periods.
6. **Nonperiodic signal** – It changes without exhibiting a pattern or cycle that repeats over time.
7. **Wavelength** - directly related to the frequency of a given waveform.
8. **Frequency** - refers to the number of waves that pass a given point in each time period and is often expressed in terms of hertz ($\boldsymbol{Hz}$) or cycles per second.
9. **Amplitude** - is a measure of how big the wave is.
10. **Modems** - a contraction of the word's "modulator" and "demodulator."
11. **Modulation** - the process of converting data into radio waves by adding information to an electronic or optical carrier signal.
12. **Amplitude modulation (AM)** – It is the modulation technique in which carrier amplitude varies based on analog baseband information signal to be transmitted in a wireless medium.
13. **Frequency modulation (FM)** – It is the modulation technique in which carrier frequency varies based on analog baseband information signal to be transmitted in a wireless medium.
14. **Phase modulation (PM)** – It is the modulation technique in which the carrier phase varies based on analog baseband information signal to be transmitted in a wireless medium.
15. **Analog-to-Digital Conversion: From PAM to PCM** - This method is used to convert an analog signal, such as voice and video, into a digital signal.
16. **ADC (Analog-to-Digital Converter)** - converts the analog value to a digital (binary) equivalent.
17. **Sampling** - lays out of the analog signal in a graph.
18. The sampling process essentially converts analog amplitudes to discrete levels and is a type of modulation called **pulse amplitude modulation (PAM)**.
19. **quantize** - means to approximate the amplitude value of a pulse to the nearest integer on a predefined set of permitted integers.
20. **Quantization** - layers the discrete signal in the analog signal with less margin of error.

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21. **Encoding (pulse code modulation [PCM])** - converts discrete signals into highs (1) and lows (0), making these the binary equivalent of a time-bound discrete signal.
22. **Line coding** - the process of converting digital data into digital signals.
23. **Attenuation** – The strength of a signal decreases as it travels along a transmission medium.
24. **Noise** – It is usually defined as an unwanted signal that is superimposed on a desired signal.
25. **Atmospheric noise** - the noise that is caused by such natural atmospheric phenomena as lightning discharge in thunderstorms and other electrical disturbances that occur in nature.
26. **Man-made noise** - an electromagnetic (EM) noise that is caused by human activities, which are associated with the use of electrical equipment.
27. **Extraterrestrial noise** - the noise that comes from outside the earth and includes solar noise and cosmic noise.
28. **Solar noise** - the noise that originates from the sun.
29. **cosmic noise** - generated by distant stars.
30. **Thermal noise** - occurs in electrical conductors and is caused by the thermal agitation of the charges in the material.
31. **Signal-to-noise** - the ratio of the magnitude of the signal to that of the noise.
32. **Shot noise** - arises from the time-dependent fluctuations in electrical current.
33. **Distortion** – It refers to the change or alteration of an object. Thus, in terms of data transmission, distortion means that the signal changes its form or shape.
34. **Delay distortion** - a phenomenon that is peculiar to guided transmission media.
35. **Signal-to-Noise Ratio** - It is often useful to have a quantitative method for describing the quality of a signal in terms of its corruption by noise.