**Identification: (Sa ubos magtuon)**

1. \_\_\_\_\_\_\_\_\_\_\_\_- arose in the technology of transmission of electrical signals over wire communications lines.
2. \_\_\_\_\_\_\_\_\_\_\_\_– This generation uses a new technology called Universal Mobile Telecommunication Systems (UMTS) in which it can render multimedia services along a line with streaming.
3. \_\_\_\_\_\_\_\_\_\_\_\_– This is one of the oldest forms of long-distance communication for transmitting information.
4. \_\_\_\_\_\_\_\_\_\_\_\_- takes on discrete values.
5. \_\_\_\_\_\_\_\_\_\_\_\_- in the form of a number, character, text, audio, or video.
6. \_\_\_\_\_\_\_\_\_\_\_\_– In this generation, Cellphones are upgraded from analog to digital.
7. \_\_\_\_\_\_\_\_\_\_\_\_– This form is often used by ancient Persians, Romans, and Greeks to send messages using a bird as a courier.
8. \_\_\_\_\_\_\_\_\_\_\_\_– In 1792, Claude Chappe developed a messaging system that uses flags as methods of communication.
9. \_\_\_\_\_\_\_\_\_\_\_\_– In 1860, this mail service delivers messages, newspapers, and mails using relays of horse-mounted riders.
10. \_\_\_\_\_\_\_\_\_\_\_\_– It revolutionized long-distance communication by sending electric signals (Morse code) in between two (2) stations.
11. \_\_\_\_\_\_\_\_\_\_\_\_- can be created, deleted, stored, or transferred.
12. \_\_\_\_\_\_\_\_\_\_\_\_– This generation rolls out faster data transfer speeds up to 10 times faster than 4G.
13. \_\_\_\_\_\_\_\_\_\_\_\_– It is a transmission of electric current projected into space in the form of radio waves.
14. \_\_\_\_\_\_\_\_\_\_\_\_– It is an instrument designed for the simultaneous transmission of human voice.
15. \_\_\_\_\_\_\_\_\_\_\_\_- This is according to Claude Shannon.
16. \_\_\_\_\_\_\_\_\_\_\_\_– This generation uses analog wireless technology in communications.
17. \_\_\_\_\_\_\_\_\_\_\_\_- a piece of information that can be analog or digital.
18. \_\_\_\_\_\_\_\_\_\_\_\_- refers to continuous information.
19. \_\_\_\_\_\_\_\_\_\_\_\_- These consist of ones and zeros (1’s and 0’s).
20. \_\_\_\_\_\_\_\_\_\_\_\_– The key technologies that have made in this generation are Multiple Input Multiple Output (MIMO) and Orthogonal Frequency Division Multiplexing (OFDM).
21. \_\_\_\_\_\_\_\_\_\_\_\_- means communication through data bits (as in electric currents and voltages switching on or off).
22. \_\_\_\_\_\_\_\_\_\_\_\_- a representation of the conditions and parameters affecting the transmission and processing of information.
23. \_\_\_\_\_\_\_\_\_\_\_\_- refers to the exchange of data between a source and a receiver in a network.
24. \_\_\_\_\_\_\_\_\_\_\_\_ - generates the information
25. \_\_\_\_\_\_\_\_\_\_\_\_- converts the information into an electrical form called message signal.
26. \_\_\_\_\_\_\_\_\_\_\_\_- is used to convert the message signal into a form acceptable to the channel.
27. \_\_\_\_\_\_\_\_\_\_\_\_- is the path or link that connects the transmitter and the receiver.
28. \_\_\_\_\_\_\_\_\_\_\_\_- performs an inverse function of that of the transmitter to recover the message signal.
29. \_\_\_\_\_\_\_\_\_\_\_\_- converts the electrical signal back to a form acceptable to the receiver.
30. \_\_\_\_\_\_\_\_\_\_\_\_- is the user of the information generated by the source.
31. \_\_\_\_\_\_\_\_\_\_\_\_– It is a link that permanently connects two (2) nodes or network devices.
32. \_\_\_\_\_\_\_\_\_\_\_\_– One (1) node is connected to multiple nodes, each in a P2P manner.
33. \_\_\_\_\_\_\_\_\_\_\_\_– All nodes are interconnected by a single link with one (1) node that is the master node and the other nodes are secondary or slave nodes.
34. \_\_\_\_\_\_\_\_\_\_\_\_– It is like the multidrop topology with the exception that there is no master–slave relationship; all nodes are peers.
35. \_\_\_\_\_\_\_\_\_\_\_\_– The nodes are connected serially in a P2P manner with the last node connected to the first node to form a loop.
36. \_\_\_\_\_\_\_\_\_\_\_\_– It is formed by connecting multiple buses to form a system of branching links with no closed loop.
37. \_\_\_\_\_\_\_\_\_\_\_\_– It is a topology in which each node is connected in a P2P manner to a central node called a hub.
38. \_\_\_\_\_\_\_\_\_\_\_\_– The network nodes are interconnected arbitrarily.
39. \_\_\_\_\_\_\_\_\_\_\_\_- are networks that interconnect devices within the reach of an individual, usually within a range of 10 meters.
40. \_\_\_\_\_\_\_\_\_\_\_\_- cover small geographical areas, typically a building, a floor, or a campus.
41. \_\_\_\_\_\_\_\_\_\_\_\_- interconnect LANs in a campus or metropolitan area.
42. \_\_\_\_\_\_\_\_\_\_\_\_- cover much larger areas such as a country (e.g., public switched telephone network [PSTN]) or the globe (e.g., the Internet).

**Answer Key:**

1. **long-distance communication** - arose in the technology of transmission of electrical signals over wire communications lines.
2. **3rd Generation (3G)** – This generation uses a new technology called Universal Mobile Telecommunication Systems (UMTS) in which it can render multimedia services along a line with streaming.
3. **Smoke Signals** – This is one of the oldest forms of long-distance communication for transmitting information.
4. **Digital data** - takes on discrete values.
5. **Data** - in the form of a number, character, text, audio, or video.
6. **2nd Generation (2G)** – In this generation, Cellphones are upgraded from analog to digital.
7. **Pigeon Courier** – This form is often used by ancient Persians, Romans, and Greeks to send messages using a bird as a courier.
8. **Semaphore Flags** – In 1792, Claude Chappe developed a messaging system that uses flags as methods of communication.
9. **Pony Express** – In 1860, this mail service delivers messages, newspapers, and mails using relays of horse-mounted riders.
10. **Electrical Telegraph** – It revolutionized long-distance communication by sending electric signals (Morse code) in between two (2) stations.
11. **Data** - can be created, deleted, stored, or transferred.
12. **5th Generation (5G)** – This generation rolls out faster data transfer speeds up to 10 times faster than 4G.
13. **Wireless Telegraphy (Radio)** – It is a transmission of electric current projected into space in the form of radio waves.
14. **Telephone** – It is an instrument designed for the simultaneous transmission of human voice.
15. **Information theory** - This is according to Claude Shannon.
16. **1st Generation (1G)** – This generation uses analog wireless technology in communications.
17. **Data** - a piece of information that can be analog or digital.
18. **Analog data** - refers to continuous information.
19. **Digital data** - These consist of ones and zeros (1’s and 0’s).
20. **4th Generation (4G)** – The key technologies that have made in this generation are Multiple Input Multiple Output (MIMO) and Orthogonal Frequency Division Multiplexing (OFDM).
21. **Digital communication** - means communication through data bits (as in electric currents and voltages switching on or off).
22. **Information theory** - a representation of the conditions and parameters affecting the transmission and processing of information.
23. **Data communication** - refers to the exchange of data between a source and a receiver in a network.
24. **source** - generates the information
25. **source encoder** - converts the information into an electrical form called message signal.
26. **transmitter** - is used to convert the message signal into a form acceptable to the channel.
27. **channel** - is the path or link that connects the transmitter and the receiver.
28. **receiver** - performs an inverse function of that of the transmitter to recover the message signal.
29. **source decoder** - converts the electrical signal back to a form acceptable to the receiver.
30. **sink** - is the user of the information generated by the source.
31. **Point-to-Point (P2P) topology** – It is a link that permanently connects two (2) nodes or network devices.
32. **Point-to-Multipoint topology** – One (1) node is connected to multiple nodes, each in a P2P manner.
33. **Multidrop topology** – All nodes are interconnected by a single link with one (1) node that is the master node and the other nodes are secondary or slave nodes.
34. **Bus topology** – It is like the multidrop topology with the exception that there is no master–slave relationship; all nodes are peers.
35. **Ring topology** – The nodes are connected serially in a P2P manner with the last node connected to the first node to form a loop.
36. **Tree topology** – It is formed by connecting multiple buses to form a system of branching links with no closed loop.
37. **Star topology** – It is a topology in which each node is connected in a P2P manner to a central node called a hub.
38. **Mesh topology** – The network nodes are interconnected arbitrarily.
39. **Personal area networks (PANs)** - are networks that interconnect devices within the reach of an individual, usually within a range of 10 meters.
40. **Local area networks (LANs)** - cover small geographical areas, typically a building, a floor, or a campus.
41. **Metropolitan area networks (MANs)** - interconnect LANs in a campus or metropolitan area.
42. **Wide area networks (WANs)** - cover much larger areas such as a country (e.g., public switched telephone network [PSTN]) or the globe (e.g., the Internet).