

#### QUESTION 4

##### Answer All 40 Questions

4.1. The physical connection between the telephone set and the switching equipment is called the

- Trunk line
- Link
- Subscriber loop
- Leased line

4.2. The fixed telephone set is powered from the central office at \_\_\_\_\_

- 42 to 52 Vdc
- 42 to -52 Vdc
- 24 to 64 Vdc
- 24 to - 64 Vdc

4.3. What is an Erlang?

- It is a unit of magnetic field intensity measured around a conductor
- It is the number of erroneous bits received per unit of time
- It a unit of electrical energy radiated in space.
- It is equal to the number of simultaneous calls originated during a specific hourly period.

4.4. What is the local loop of a telephone system?

- It is a two-wire or four-wire communication circuit between the customer's premise and the central office
- It is a group of wires connecting a telephone set to a modern
- It is a four-wire circuit connecting a facsimile machine to a computer
- It is a single piece of wire connecting the subscriber's telephone set to another set in an adjacent room.

4.5. The following field was introduced in IPv6, i.e does not exist in IPv4

- Traffic class
- Flag offset
- Header Length
- Diffserv

4.6. 1 mW is equal to

- 90 dBm
- 0 dBm
- 30 dBm
- 120 dBm

4.7. Which of the following responds to the request of a subscriber by sending a dial tone?

- Line finder
- First selector
- Connector
- Line equipment

4.8. \_\_\_\_\_ is a voice operated device that inserts a high loss in the opposite direction of transmission of the talking party.

- Hybrid
- 2-wire circuit
- Echo suppressor
- VNL

4.9. 'Time to Live' is a field in \_\_\_\_\_

- Ethernet
- IPV4
- IPV6
- TCP

4.10. The maximum intelligibility for voice frequency is located between

- 250 and 500 Hz
- 1000 and 3000 Hz
- 500 and 1000 Hz
- 3000 and 5000 Hz

4.11. The maximum voice energy is located between

- 250 and 500 Hz
- 1000 and 3000 Hz
- 500 and 1000 Hz
- 3000 and 5000 Hz

4.12. Which of the following could be an Ethernet MAC address?

- "250.76.4.4"
- "04:A2:11:F6:2B:11"
- "04:A2:11:F6"
- "250,76.4"

4.13. What is the standard telephone voice channel spacing?

- 44 MHz
- 40 kHz
- 4 kHz
- 40 MHz

4.14. Which tester is used to measure SWR?

- Multimeter
- Oscilloscope
- Spectrum analyzer
- Reflectometer

4.15. To least the fault of the given line, a signal is fed to the line, 30  $\mu$ s later the signal returned. What is the distance of the fault?

- 9000 m
- 300 m

100 m  
 4500 m  
4.16. Which stage increases the selectivity of the circuit in an AM receiver?

- Detector
- IF stage
- Modulator
- Mixer

2.17. In virtual circuit network each packet contains

- (a) full source and destination address
- (b) a short VC number
- (c) both (a) and (b)
- (d) none of the mention

4.18. The signal quality of the calls is constantly monitored by the base station, when the quality of the calls drops below a certain specified level. The base request the Mobile Telephone Switch Office (MTSO) to try and find a better cell site through a process known as \_\_\_\_\_

- Hand-off
- Cell splitting
- Roaming
- Frequency reuse

2.19. Ethernet. In an Ethernet network, which of the following are true:

- Ethernet switches learn addresses by looking at the destination address of packets as they pass by.
- Ethernet hubs and repeaters learn addresses by looking at the addresses of packets as they pass by.
- A correctly operating Ethernet switch never sends a packet to the wrong outgoing port.
- Ethernet switches (a.k.a bridges) learn addresses by looking at the source address of packets as they pass by.

2.20. What transmission rate is needed to transmit a 4" x 6" photograph (uncompressed, and with a resolution of 1200 dots per inch and 24 bits per pixel) in 1 second?

- 28.8kb/s
- 28.8kbits
- 8.29Mb/s
- 829Mb/s

4.21. The \_\_\_\_\_ in an FM receiver causes a stronger signal to dominate over a weaker signal on the same frequency.

- Capture effect
- Flywheel effect
- Hall effect

- Skin effect

4.22. A device that converts a 2-wire circuit to a 4-wire circuit.

- RS-232 interface
- Hybrid circuit
- Balun
- Stub

4.23. Which of the following is a frequency band of CT2 telephone?

- 890 – 915 MHz
- 824 – 849 MHz
- 1.48 – 1.50 GHz
- 864 – 868 MHz

4.24. How many simultaneous calls does each CT2 system can support?

- 96
- 20
- 24
- 49

4.25. How many simultaneous calls does a CT2 radio transceiver can assess at any given time?

- 40
- 80
- 32
- 8

4.26. The AGC voltage of a radio receiver is always \_\_\_\_\_.

- Present before adjustments can be made
- DC, but may have either polarity positive DC
- Positive DC
- Negative

4.27. What is a concentrator?

- A system that improves the signal-to-noise ratio by compressing the volume range of a signal.
- A device that varies the characteristics of a carrier signal in accordance with the waveform of a modulating signal which contains useful information
- A switching system that lets a large number of telephone or data processing subscribers use a lesser number of transmission lines or a narrow bandwidth
- Equipment in the central office.

4.28. What is a leased line?

- A piece of wire used in a local area network in one building
- A piece of wire connecting a telephone set to a PABX
- A temporary connection of one computer to a mainframe via a modem and a telephone line
- A permanent circuit for a private use within a communication network

4.29. Analogue radio communications between points using a single share frequency is \_\_\_\_\_

- Simplex
- Full duplex
- Half-duplex
- Full/full duplex

4.30. What is the number of channels of a cellular system with an allocated spectrum of 25 MHz and with a channel of 30 kHz bandwidth?

- 833
- 240
- 1000
- 666

4.31 Geographic National Destination Codes in Kenya have \_\_\_\_\_ digits.

- 4
- 3
- 2
- 5

4.32 The international country calling code of China starts with which digit?

- 8
- 9
- 6
- 7

4.33. Which of the following is equal to the reciprocal of the sample rate in T1?

- Slot Time
- Transmission time
- Frame time
- Bit rate

4.34. What is the final output of a multiplexer?

- Baseband
- Composite baseband
- Information
- Composite carrier

4.35. The circuit that performs demultiplexing in an FDM system is \_\_\_\_\_.

- Op - Amp
- Bandpass filter
- Discriminator
- Subcarrier oscillator

4.36. What is the bandwidth required to transmit at a rate of 10 Mbps in the presence of a 28-db S/N ratio?

- 1.075 MHz
- 10 MHz
- 5 MHz
- 10.5 MHz

4.37. T1 stands for

- Transmission one
- Telecommunication one
- Telex one
- Transmission line one

4.38. How long is IPv6 address?

- 32 bits
- 128 bytes
- 64 bits
- 128 bits

4.39. Which of the following is private IP addresses

- 12.0.0.1
- 168.172.19.39
- 172.20.14.36
- 192.168.24.43

4.40. The first commercial cellular mobile system was first operated in \_\_\_\_\_

- 1979
- 1981
- 1983
- 1985