

KFUPM - COMPUTER ENGINEERING DEPARTMENT**COE-341 – Data and Computer Communication****Quiz 03 - March 17th, 2012****Student Name:****Student Number:**

- 1) When considering the performance of a communication link:
 - a. For unguided communication the signal bandwidth is more important than the medium
 - b. For unguided communication the medium is more important than the signal bandwidth
 - c. For unguided communication neither the signal bandwidth nor the medium play a role in determining the link performance
 - d. For unguided communication the signal bandwidth plays the major role in determining the link performance
- 2) The following applications ordered from low frequency to high frequency should be:
 - a. Satellite communication, laser-based communication, AM radio, and TV broadcast
 - b. AM radio, TV broadcast, satellite communication, and laser-based communication
 - c. Laser-based communication, satellite communication, TV broadcast, and AM radio
 - d. None of the above
- 3) Infrared communications use part of the spectrum which is
 - a. Lower in frequency than visible light, but higher than microwave
 - b. Lower in frequency than microwave but higher than AM/FM radio
 - c. Higher in frequency than visible light but lower than x-ray
 - d. Lower in frequency than AM/FM radio
- 4) Comparing the three guided media: twisted-pair, coaxial cable, and optical fiber using the attenuation criterion
 - a. Optical fiber has the highest attenuation, while coaxial cable has the lowest attenuation
 - b. Coaxial cable has the highest attenuation, while twisted-pair has the lowest attenuation
 - c. All three have similar attenuation characteristics
 - d. Twisted-pair has the highest attenuation, while optical fiber has the lowest attenuation
- 5) Considering the use and applicability of the different guided media
 - a. Twisted-pair is the most widely used guided media
 - b. Coaxial cable is the most widely used guided media
 - c. Optical fiber is the most widely used guided media
 - d. All three media are almost equally used
- 6) Considering the type of carried communication signal on the different guided media,
 - a. Only optical fiber can carries digital signals while twisted-pair and coaxial cable can carry only analog signals such as voice and TV broadcasts
 - b. Optical fiber and coaxial cable can both carry digital and analog signals while twisted-pair is limited to analog signals as in telephony
 - c. All three media can carry both types (analog and digital) signals
 - d. All three media carry only analog signals
- 7) Comparing the following two guided media performance wise,
 - a. UTP provides more immunity to EM interference compared to STP
 - b. UTP provides less immunity to EM interference compared to STP
 - c. UTP and STP are equally immune to EM interference
 - d. UTP and STP are equally affected by EM interference
- 8) As far as immunity to EM interference for optical fiber, coaxial cable, and twisted-pair,
 - a. Optical fiber is the least affected, while coaxial is the most affected
 - b. Coaxial cable is the least affected, while twisted-pair is the most affected
 - c. Twisted-pair is the most affected, while optical fiber is the least affected
 - d. Coaxial cable is the least affected, while optical fiber is the most affected
- 9) Out of the CAT 3, CAT 4, CAT 5 standards defined by the EIA-568 for twisted-pair media
 - a. CAT 3, CAT 4, and CAT 5 are mostly used in LAN applications
 - b. CAT 4 and CAT 5 are mostly used in LAN applications
 - c. CAT 3 and CAT 5 are mostly used in LAN applications
 - d. Only CAT 5 is used in LAN applications

- 10) The connector used for connecting the twisted-pair medium to devices is the
 - a. BNC connector
 - b. RS-232 connector
 - c. RJ-45 connector
 - d. Three-pin AC connector
- 11) The connector used for connecting the coaxial cable medium to devices is the
 - a. BNC connector
 - b. RS-232 connector
 - c. RJ-45 connector
 - d. Three-pin AC connector
- 12) Comparing optical fiber and twisted-pair media in terms of bit-rate performance and the capability of providing Gbps services
 - a. Only optical fiber can deliver such high bit rates
 - b. Only TP can deliver such high bit rates
 - c. Both optical fiber and TP can deliver such high bit rates
 - d. Neither can deliver such high bit rates
- 13) One of the following does not limit the performance of the coaxial cable:
 - a. Thermal noise
 - b. Interference
 - c. Intermodulation
 - d. Attenuation
- 14) Considering the two widely used types of optical signal generators
 - a. LED is more expensive and more efficient compared to ILD
 - b. LED is less expensive but more efficient compared to ILD
 - c. LED is less expensive and less efficient compared to ILD
 - d. LED is more expensive and less efficient compared to ILD
- 15) Ranking the three modes of transmission: single, graded-index multimode, and step-index multimode in an optical fiber according to signal quality,
 - a. Step-index multimode is the best while single mode is the worst
 - b. Single mode is the best while graded-index multimode mode is the worst
 - c. Single mode is the best while step-index multimode is the worst
 - d. Step-index multimode is the best while graded-index multimode is the worst
- 16) Optic fibers are used to carry
 - a. Only visible light signals
 - b. Visible light signals as well as invisible light signals
 - c. Only invisible light signals such as infrared
 - d. Visible light signals, invisible light signals, and lower GHz EM frequencies
- 17) To increase the optical fiber utilization, the following widely applied technique is used
 - a. Time division multiplexing
 - b. Space division multiplexing
 - c. Wavelength division multiplexing
 - d. Code division multiplexing
- 18) Considering unguided media transmissions, the system must have
 - a. An antenna
 - b. A repeater
 - c. An ILD
 - d. All the above
- 19) Ranking these unguided media applications from low to high frequency
 - a. Infrared, terrestrial microwave, and broadcast radio
 - b. Broadcast radio, terrestrial microwave, and infrared
 - c. Terrestrial microwave, broadcast radio, and infrared
 - d. Infrared, broadcast radio, and terrestrial microwave
- 20) Unguided infrared communications
 - a. Work only in line-of-sight settings
 - b. Do not work in line-of-sight settings but work in non line-of-sight settings
 - c. Do not work in line-of-sight and non line-of-sight settings
 - d. Work in line-of-sight as well as non line-of-sight settings