

Assignment # 3

Instructions :

Your assignment must be uploaded/submitted before or on **8th June 2011**.

- Your assignment must be in .doc format.(Any other formats like scan images, PDF, Zip, rar, bmp, docx etc will not be accepted)
- Save your assignment with your ID (e.g. bc020200786.doc).
- No assignment will be accepted through email.

It should be clear that your assignment will not get any credit if:

- The assignment is submitted after due date.
 - The submitted assignment does not open or file is corrupted.
 - Your assignment is copied from internet, handouts or from any other student (Strict disciplinary action will be taken in this case).
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Question 1:

[5]

According to your point of view, which one of the following guided media is better and why? Justify your answer with solid reasons.

- Twisted pair cable
- Coaxial cable
- Fiber optical cable

Solution:

“Optical fiber” is much better than other Guided Medias due to the following reasons:

- It includes complete freedom from electrical interference, a small, compact diameter, and the potential for carrying very large amounts of data at very high speeds.
- Although signals on copper cabling and fiber optic cable travel at around the same speed, light meets less resistance as it moves along the cable, allowing signals to travel much further without attenuation.
- Fiber optic cable consists of strands of glass fiber surrounded by a coating of Teflon. Kevlar or stainless steel fibers are often incorporated into the cable to provide added strength.
- Optical have higher bandwidth while co-axial have less bandwidth.
- Co-axial and twisted cables have less information carrying capacity than that of fiber optics.

Question 2:**[5]**

What is the importance of twisting in twisted pair cable?

Solution:

- Twisting provides protection against crosstalk, the noise generated by adjacent pairs.
- By twisting the wires, cable designers can effectively provide self-shielding for wire pairs within the network media.
- With twisting, the cumulative effect of the interference is equal on both wires. In other words twisting ensures that both wires are equally, but inversely, affected by external influences such as noise.
- Twisting doesn't always eliminate the impact of noise, but it does significantly reduce it and keep wires more save from such external interferences like noise and distortion.

Question 3:**[5]**

Is the transmission medium a part of physical layer? If yes state your reasons?

Solution:

- Yes it is part of the physical layer because the transmission media is located beneath the physical layer and controlled by the physical layer.
- This layer provides the physical connection by using transmission medium between network devices for transmitting the bits across the network.
- After encoding the data appropriately, the physical layer actually transmits the data, and receives it by using transmission medium.

Note:

- Your answer must follow the below given specifications. **Marks will be deducted if you do not follow these instructions.**
 - Font style: "Times New Roman"
 - Font color: "Black"
 - Font size: "12"
 - **Bold** for heading only.
 - Font in *Italic* is not allowed at all.

- You should consult recommended books to clarify your concepts.
- It's better for you to submit the assignment well before the deadline.
- Do not put any query at MDB about this assignment, if you have any query then email at CS601@vu.edu.pk