knowledgeplus

Dear Parents / Students

Due to the unprecedented situation, Knowledgeplus Training center is mobilized and will keep accompanying and supporting our students through this difficult time.

Our Staff will be continuously, **sending notes and exercises on a weekly basis** through **what's app and emails**. Students are requested to **copy the notes and do the exercises** on their copybooks.

The answers to the questions below will be made available on our website on **knowledgeplus.mu/support/ac/week1.php** by 27th March 2020.

Please note that these are extra work and notes that we are providing our students and **all classes will be replaced during the winter vacation.**

We thank you for your trust and are convinced that, together, we will overcome these troubled times

Advanced Computing Week 1: Data Transmission

Data transmission is the process of sending digital or analog data over a communication medium to one or more computing, network, communication or electronic devices. It enables the transfer and communication of devices in a point-to-point, point-to-multipoint and multipoint-to-multipoint environment.

In order to send or receive data, we need communication media like: fiber optics, UTP, wireless.

Serial Transmission

In serial data transmission, bits are sent sequentially (one after the other) down the same wire (channel).
Using a single wire reduces costs but slows down the speed of transmission.
Sending data sequentially is perfect for transmitting over longer distances as there are no synchronization issues.

Advantages	Disadvantages
Serial networks can be extended over long distances at much less cost	Slower as one bit is transmitting at a time
It uses only one wire therefore avoids timing problem caused by one wire being longer than another	Hardware is required to convert data between an internal parallel form and a serial form

<u>Parallel data transmission</u>

In parallel data transmission, multiple bits are sent simultaneously down different wires (channels) within the same cable. It is often referred to as a bit wise transmission since on byte (8 bits) can be transmitted at a time.

Data is synchronized by a clock; however this becomes problematic over longer distances where synchronization errors may start to occur.
Using parallel wires is more expensive but transmission is faster.

Advantages	Disadvantages
It is faster than serial data transmission	It is not economic because when distance increases, the wire cost also increases
It matches underlying hardware	It increases complexity of interface components and noise level is also increased

Theory questions

1. Give three differences between High Level Language and Low Level Language.

2. List down 3 translators.

3. Give 2 differences between Compiler and Interpreter.

4. Explain what to you understand by operating system.

   a) State 3 tasks done by the operating system

   b) Give 2 example of operating system.

   c)

5. A computer system comes equipped with DVD writer/reader,hard disk drive and RAM

   a) Give a different use of each of these forms of memory.

   - DVD

   - Hard Disk

   - RAM

6. A letter is sent home to parents of pupils who are going on a ski trip. Describe how mail merge techniques can be used to send individual information to each parent.

7. Describe two ways in which computer technology has changed teaching in school.

8. RAM and ROM are two type of computer memory. Explain two differences between them.

9. What is meant by video-conferencing?

   - Describe one benefit of video conferencing

   - Describe one drawback of video conferencing.

10. Explain what is E-Commerce

    - Give one advantage of using E-Commerce

    - Give one disadvantage of using E-Commerce