1 Question 1

Input	Output	Storage
Keyboard	Monitor	SSD
Mouse	Speaker	HDD
Touch Screen	Printer	Micro SD
Controller	Projector	RAM
Microphone	Speech Synthesizer	ROM

2 Question 2

A Direct Memory Access (DMA) controller allows devices to send and receive data from the main memory while allowing the CPU to do other tasks. Through the memory bus, the CPU tells the controller the length of the memory chunk it is supposed to copy, the device and memory address, the command (read or write). While the CPU performs other tasks, the DMA controller performs required operations. The CPU and the DMA controller are in competition for the memory bus but since the CPU will find most of its data in the cache, it will leave cycles for the DMA controller to use the bus.

3 Question 2

A device driver is a special software that is written for hardware devices. They allow software to communicate with hardware. More specifically, they allow the OS and applications to work with hardware. They also allow different pieces of hardware to work together. Drivers are needed because different pieces of hardware may use different protocols for I/O. Drivers can abstract away all of the hardware's details into a streamlined API which the OS and applications may use. There are different kinds of drivers:

- Kernel device drivers - Drivers for generic devices such as motherboard and BIOS.

- Original Equiment Manufacturer(OEM) drivers - proprietary drivers installed seperately after installing the OS.

- Virtual device drivers - used to control virtual machines and emulate hardware of the host device.

4 Question 4

True. Updating drivers can fix issues with certain software. For instance, newer applications may be using the latest drivers to communicate with hardware. Sticking to an older version may lead to compatibility issues. In other cases, driver updates leads to performance gains. For examples, the latest drivers for the Intel ARC GPUs yielded a 119 % performance improvement in DX11 and DX12 games.

5 Question 5

A KVM switch's functions is to control and switch between different PCs using a single trifecta of keyboard, monitor and switch. It is useful when a user has different PCs for different tasks. For instance, streamers who have their main PC and a secondary PC for streaming.

6 Question 6

- Refresh rate - the rate at which the screen is redrawn.

- Pixel Pitch - the vertical and horizontal distance between individual pixels.

- Resolution - the number of pixels in the display

- Viewing angle - the maximum angular distance from looking in front of a screen to looking from the side without a change in brightness or colors.

7 Question 7

100ms

8 Question 8

FAT32 is the 32 bit ver