

How Computers Work

Browse to **Howstuffworks.com** (URL <http://www.howstuffworks.com>) and access the Computers page by clicking on the link on the left side of the screen.

Answer the following questions (be sure to define all terms used):

1. What are the three basic things that a microprocessor can do?

3

2. What type of instructions must be sent to the microprocessor?

1

3. List 5 components commonly found on a motherboard and explain briefly what they do.

5

4. Explain why the BIOS is one of the most important components of the computer.

1

5. What electronic device is used to store data in Dynamic RAM?

1

6. What is the difference between RAM and ROM?

2

7. Flash memory is the popular name for a type ROM. What is the full name and the acronym for this type of memory?

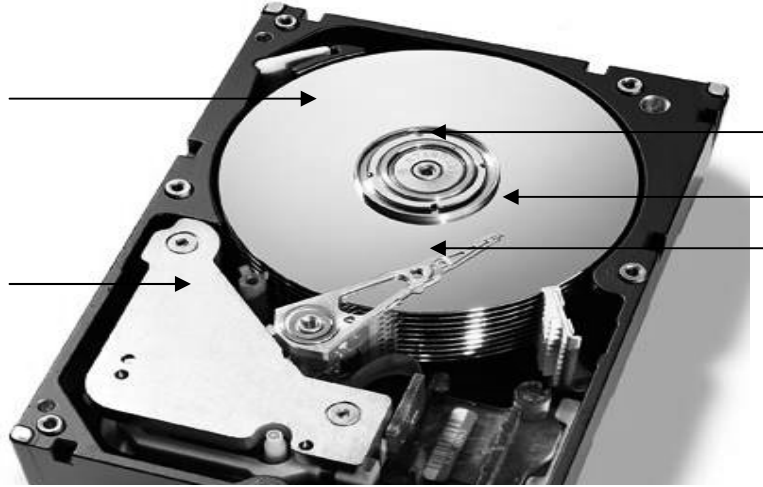
1

8. Describe the similarities and differences between cassette tape players and hard disk drives.

2

9. Label five components of the hard disk drive on the illustration below.

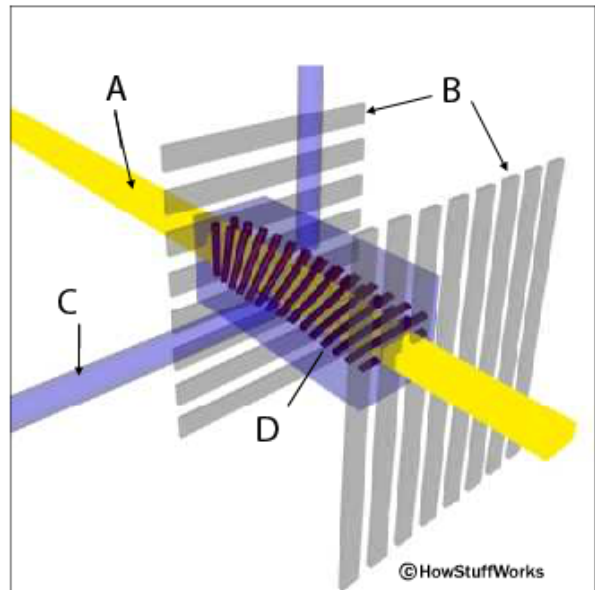
5



10. (i) What does the acronym LCD mean?

(ii) Identify the elements of an LCD indicated on the diagram on the right.

- A) _____
- B) _____
- C) _____
- D) _____



5

11. Describe how colours are created on a colour monitor.

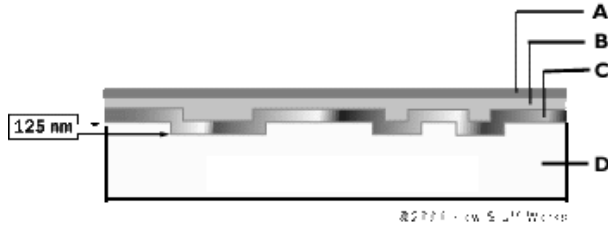
1

Explain the following four terms:

- A) Resolution _____
- B) Dot Pitch _____
- C) Refresh Rate _____
- D) Colour Depth _____

4

12. Label this cross-section of a CD.



4

13. Explain how the CD-ROM drive reads data from a CD.

2

14. What is the name of a device which converts light into electricity in scanners and digital cameras?

1

15. What is the difference between serial cables and parallel cables?

1

16. Give two advantages that the Universal Serial Bus has over the parallel port and the serial port.

2

17. Complete the following table comparing Laser Printers and Ink-Jet Printers.

4

| | Laser Printers | Ink-Jet Printers |
|-----------------|-----------------------|-------------------------|
| Printing Method | | |
| Advantages | | |
| Disadvantages | | |
| Typical Use | | |

18. How does PCI Express increase the speed of data transfer to the video adapter?

2

19. A Graphics Adapter Card must perform several functions in order to display graphics on the monitor.

3

Explain the function of each of the following devices on a Video Card:

Graphics Processor

Video RAM

Digital to Analog Converter

3

20. Complete the following table:

| Bus Type | Clock Speed | Bus Width (Bits) | Data Transfer Rate |
|-------------------|-------------|------------------|--------------------|
| Processor (FSB) | | | |
| AGP | | | |
| PCI | | | |
| PCI Express (1X) | | | |
| PCI Express (16X) | | | |