

Kim's Knowledge Knook

Directions- Select the best multiple-choice answer.

Office Systems and Technology

1. In 1969 a U.S. Department of Defense project call ARPANET evolved into the:
 - a. first microcomputer
 - b. Internet
 - c. World Wide Web
 - d. first microprocessor

2. How many Kilobytes can you have before you use up 1MB (Megabyte) worth of space?
 - a. 1024 kb
 - b. 24 kb
 - c. 256 kb
 - d. 1000 kb

Answer #1: B- Internet. According to <http://en.wikipedia.org/wiki/ARPANET>, "*The **ARPANET**, developed by **DARPA** of the **United States Department of Defense**, was the world's first operational **packet switching** network, and the predecessor of the global **Internet**. **Packet switching**, now the dominant basis for both data and voice communication worldwide, was a new and important concept in data communications. Previously, data communication was based on the idea of **circuit switching**, as in the old typical telephone circuit, where a dedicated **Derp** circuit is tied up for the duration of the call and communication is only possible with the single party on the other end of the circuit. With **packet switching**, a system could use one communication link to communicate with more than one machine by assembling data into **packets**. Not only could the link be shared (much as a single **post box** can be used to post letters to different destinations), but each packet could be routed independently of other packets. This was a major advancement.*"

Answer #2: A- 1024. According to http://tandemtables.com/database/tables/basics/BYTES_EASY.html the break down of storage space is as follows, " 1 bit = a single digit, either 1 or 0. 8 bits = 1 byte, a combination of 1's and 0's. 1024 Bytes = 1 KB (kilobyte). 1024 Kilobytes = 1 MB (megabyte). 1024 Megabytes = 1 GB (gigabyte)." This means on a flash drive with a 256MB capacity you can store 262,144 kilobytes of information. An average letter/document has about 40kb (black and white format, no compression); in total, you can store roughly 6,500 documents on a flash drive. Now that some space!!! For those of you who store pictures in digital format, they take up about 1MB (Median #) of space each- this equates to a little over 250 picture files in one flash drive.

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1. The number one digit (1) for on or a number zero digit (0) for off represents the two-state condition called a/an
 - a. byte
 - b. bit
 - c. cache memory
 - d. input device
2. What is the number of bits (digital 0's and 1's) that a CPU can process at one time?
 - a. word length
 - b. bus width
 - c. clock speed
 - d. data code

Answer #1: b – Bit – These two bits of numbers are called binary code. This is the behind the scenes way that a computer talks through input devices such as a keyboard. Look at the website <http://www.techweb.com/encyclopedia/defineterm.jhtml;jsessionid=52SHS2ZGW2WZYQSNLPSKH0CJUNN2JVN?term=BINARY%20&requestid=506598> , TechEncyclopedia explains how binary code changes the letters that we use for sentences and words into a numerical code for the computer to understand. If you look around in your everyday life binary code is used elsewhere also, look at your flashlight off is 0, and on is 1. If you still own a typewriter, then you will also recognize that next to the off switch is a 0 and next to the on switch is a 1.

Answer #2: a- Word Length – Typical word lengths are 32 or 64. The larger the word length the fast the chip. According to <http://dl.uncw.edu/digilib/chemistry/computer%20applications/hardware/chpt01a/chpt01a.htm>, which is a page dedicated to helping us understand microcomputer hardware, “When the CPU performs a calculation, the data for the calculation are held in registers inside the CPU. Each piece of data must be in a register. The size of these registers determines the number of bits that the CPU can manipulate in one operation. This is referred to as the word length of the CPU and is directly related to the processing power of the CPU. The larger the word length of a CPU, the more data it can manipulate during each clock cycle.” Remember to check out the website, you may want to be familiar with most of the bolded words.