Q: What is the purpose of a CPU?

A: To fetch and execute instructions from memory to run programs

Q: Describe the fetch/execute cycle

A: The CPU fetches an instruction from RAM memory. It decodes that instruction and then executes the instruction.

Q: What does the program counter do in a CPU?

A: It points to the next location in memory that has the next instruction. The PC is updated by one every time a CPU cycle is complete.

Q: What is the difference between an operator and an operand?

A: The operator is part of an instruction sent to the CPU that is “WHAT TO DO”. Add, subtract, multiply etc. The operand is part of an instruction sent to the CPU that is “THE CONTENTS OF THE MEMORY LOCATION”. A value of some kind

Q: How does clock speed affect CPU performance?

A: The faster the clock speed of a CPU the faster instructions are executed. This is measured in Hertz.

Q: How does the amount of cache affect CPU performance?

A: This holds the next set of instructions and is faster memory than RAM and almost as fast as CPU. Therefore the CPU does not have to wait for RAM.

Q: How does the amount of cores affect CPU performance?

A: This is the amount of CPUs a PC has. The more of them means the PC can do calculations at the same time. This is called parallel processing.

Q: Explain the rules of an AND gate?

A: It needs both inputs to be 1 to produce an output of 1.

Q: Explain the rules of an OR gate?

A: It needs either inputs to be 1 to produce an output of 1.

Q: Explain the rules of a NOT gate?

A: It reverses the value of an input. 1 becomes 0, 0 becomes 1.

Q: What is the difference between RAM and ROM

A: RAM is the main memory where all the programs run, it is volatile. ROM boots up the computer and is non-volatile

Q: Explain virtual memory?

A: It is a part of the hard drive that is used to store instructions temporarily from RAM.

Q: Is a hard drive magnetic, optical or Flash technology?

A: magnetic

Q: Is a DVD magnetic, optical or Flash technology?

A: Optical

Q: Name 3 input devices

A: Keyboard, mouse, microphone, scanner, bar code scanner, RFID, sensor

Q: Name 3 output devices

A: Monitor, speakers, headphones, printer, actuators,

Q: Which is faster Dynamic or static RAM?

A: Static. Static are more complicated and have 4 or 5 transistors. They don’t need to refreshed and hold the data longer than dynamic RAM. Dynamic is used in RAM. Static is used in cache memory.