Sample technical questions:

1. How is -2 represented using 16 bits? FFFE
2. What is 2^31 roughly equal to? Two billion
3. Rank the following in terms of speed: memory, disk, CPU, context switching.

From Fastest to Slowest: CPU, Memory, Context Switching, Disk

1. If you are designing an algorithm that detects duplicates of the same characters in a 10’000,000 long string. What data structure would you use? Hash table to an array
2. What determines software efficiency? Different factors but in general I think in terms of time complexity data structures and algorithms, and physically Processing time and I/O time.
3. Software efficiency can depend on the programming language? The time complexity does not change but the efficiency will change depending on how many instructions are executed, and whether the language is interpreted or compiled. Compiled languages tend to be faster because they are at the machine code level.