COMPUTER ARCHITECTURE EXERCISE

1. Briefly explain the role of the following modules of a computer system: (i) input, (ii) CPU, (iii) (primary) memory, (iv) (secondary) storage, (v) output, (vi) bus, (vii) cache.
2. A laptop's processor runs at 2.1 GHz. What does this mean?
3. A CPU is composed of the CU, the ALU, registers and cache. Explain briefly the role of each.
4. Explain briefly the role of the following registers: CIR, PC, MAR, MDR, and the status register.
5. Processors are classified as CISC or RISC. Explain what is the difference between them. Write one advantage of each.
6. What do we mean by the fetch-execute cycle?
7. What do we mean by the Read and Write memory cycles?
8. DRAM and SRAM are two kinds of memory technologies. Write an advantage of each. How are they used in personal computers?
9. Name four kinds of secondary storage mediums.
10. Briefly explain the following terms: (i) I/O subsystem, (ii) device driver.
11. Explain what we mean by I/O buffering.
12. What is the difference between a serial and a parallel bus?
13. If the width of the address bus is 'n', what is the biggest memory that it can handle?
14. What is the role of the system clock?
15. Explain what ROM is and describe what can be found in it.
16. Write notes on each of the following: (i) ROM, (ii) PROM, (iii) EPROM, (iv) EEPROM, (V) flash memory.
17. Explain the following types of cache: (i) L1, (ii) L2, (iii) L3, disk cache.