**Q1- processor has an on-chip cache that runs in one cycle of 5 ns (200MHz).This cache has a hit rate of 87%. A second-level [motherboard] cache runs in four cycles and has a hit of 65% of all accesses that are not found in the on-chip cache. All accesses that are not found in either cache are found in main memory, with an access time of 50 ns. What is over all access time**

Q2- **processor has an on-chip cache that runs in one cycle. This cache has a hit rate of 87%. A second-level [motherboard] cache runs in four cycles and has a hit of 65% of all accesses that are not found in the on-chip cache. All accesses that are not found in either cache are found in main memory with an access time of 50 ns., if overall memory access time 8.31ns calculate the working frequency of processor**

**Q3- When an application program is tested on a microcomputer system with**

**A code cache it is found that 1340 instruction acquisition bus cycles are from**

**The cache memory and 97 are from main memory. What is the hit rate? Assume**

**Cache run in lone cycle 5ns and main memory run 10 cycles what is over all access time?**