Embedded Systems:

Overview of embedded Software
Overview of real time systems
Processor Architectures:
- CISC vs RISC
- Von Neumann vs. Harvard architecture
- Memory Mapped I/O vs I/O mapped I/O
- Internal memory vs External Memory
- Understanding processor architecture of TI DSP C5402
- Interrupt, Interrupt Vector Table, ISR
- Interrupt Masking vs. Disabling
- Boot-up sequence of C5402

C language fundamentals in context of embedded s/w
- Volatile, static, Constants

What is the difference between general purpose OS and RTOS
RTOS concepts
- Difference between Process and Thread
- Multiprocessing vs Multithreading
- Priorities
- Preemptive vs. Non Preemptive OS
- Inter-process communication
- Process/thread synchronization primitives (Semaphores)
- Device Drivers
- Memory Management
- Task execution states and scheduling
- Stack Frame in C
- Heap
- Context and context switching
- Deadlock