Q&A – Topics Covered

- Microkernel architecture; overview of RTOS
- Scheduling tasks and threads; implementation using queues; RM and EDF; aperiodic tasks and bandwidth preserving servers; POSIX scheduling and pthreads; limited priority levels
- Concurrency; semaphores, mutexes; priority inheritance; implementing priority ceiling protocol; simplification as the ceiling priority protocol; message queues, signals, timers

- Real-time communications; models of a generic network; models of a packet network; metrics: throughput, delay, jitter; examples: IP, CAN, Ethernet;
- Quality of service; weighted fair queuing, weighted round robin, RSVP
- Real-time on IP networks; timeliness of UDP and TCP; RTP; media playout and synchronisation

- Programming assignment