Assignments for the oral examination may 15th

1. Light and matter interaction (absorption/emission processes, line shape, saturation)
2. Passive resonators and ray tracing
3. Gaussian beams and resonator modes
4. Lasing conditions, power output and tuning characteristica
5. The CO_2 laser or some other molecular laser
6. Semiconductor lasers I (band structure, density of states, carrier distribution, pn junctions, population inversion)
7. Semiconductor lasers II (materials, fabrication methods, separate confinement heterostructure)
8. Semiconductor lasers III (vertical cavity lasers, DFB lasers, external cavity lasers)
9. Waveguides I (optical fibers, waveguiding principle, attenuation, dispersion, dispersion compensation)
10. Waveguides II (dielectric slab waveguides, wave theory, types of waveguides, waveguide modes, waveguide dispersion)