

**SUBJECTS FOR THE SECOND MIDTERM TEST
BIOPHYSICS I. (DENTISTRY) 2017.**

Radiations

Absorption of light

light scattering
the law of attenuation, differential form, integral form
attenuation (absorption) coefficient (μ), half-value thickness (D)
Lambert-Beer law

Luminescence

relation of absorption and emission spectrum, Stokes rule, Kasha's rule
fluorescence; phosphorescence
lifetime, quantum yield
spectrofluorimetry
light sources based on luminescence, flame photometer

Laser

preconditions to produce laser light; stimulated (induced) emission; generation of laser light
properties of laser light; comparison of laser light and spontaneously emitted light
types of lasers

Topics from laboratory practices

Microscopy
Light emission
Resonance

Chapters: *Damjanovich-Fidy-Szöllösi:* II/2.2.4, II/2.2.5, II/2.2.6, II/2.2.7, II/2.2.8, II/2.3.1, II/2.3.2, VI/3.1, VI/3.3, IX/1

Lab. manual: 2, 5, 21

Problems: 9, 10, 11, 12, 13, 20, 21, 39, 40 further calculations: Microscopy, Light emission,

Resonance 1-5