Semmelweis University
Faculty of Dentistry
Academic year 2021/2022

October 28, 2021

ED II Microscopic anatomy and Embryology

2nd MIDTERM
ANNOUNCEMENTS

The second midterm is held during the regular Histology class of the 9th study week.

ED 1-5 November 2 (Tuesday) 10.00

Please note, this midterm has to be passed successfully with at least a 2 to gain acceptance of the semester. A retake test will be offered during the last study week.

Course of the midterm examination

The test is composed of simple and multiple choice questions. Some of the questions contain pictures of mature or developing brain regions. Altogether 20 points may be collected, passing rate is 50%. (See the mock midterm test in moodle or the brain maps/cross sections uploaded here below*)*

Detailed topic list:

Cell types of the CNS and PNS - type of neurons, receptores, synapses, neurotransmitters;

Microscopy of the parts of the CNS

- *spinal cord* - grey matter, white matter, content of the columns, tracts; dorsal root ganglia, dorsal/ventral roots, communicating branches; proprioceptive, nociceptive, autonomic reflexes;
- *brain stem* - nuclei; ascending and descending pathways; reflex arc of mastication;
- *cerebellum* – parts of the cerebellum; cell types, microcircuitry of the cortex; deep nuclei, afferent and efferent tracts contained in the cerebellar peduncles;
- *thalamus* – connectivity and type of nuclei
- *cerebral cortex* – Brodmann areas; cortical types, cortical lamination; connectivity of the cortical areas (transmitters);
- *basal ganglia* - components and connectivity, transmitters;

Functional systems

- *sensory tracts/systems* - epicritical and protopathic sensitivity;
- *motor tracts/systems* – pyramidal and „extra"pyramidal connections, gamma-loop
- *location of the tracts* within the internal capsule, cerebral peduncle, cerebellar peduncles etc;

Limbic system - especially the Papez circuit, amygdala circuit, hippocampus
Cranial nerves nuclei
Autonomic nervous system - parasympathetic and sympathetic parts (nuclei and ganglia)
Development of the central nervous system - neural tube, spinal cord and brain vesicles

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