

## EVALUATION AND FORMATION OF FINAL MARK

Schoollyear 2024/2025

### PRE-EXAM ACTIVITIES (30 points)

#### Attendance

Attendance of practicals is mandatory, only one missing practical is allowed. Others have to be compensated. **Compensation of practicals is not possible if a student misses more than three practicals.** Compensation of practicals will be organized after semester is completed. One practical make-up is free of charge.

**Inclass activities (during practicals and seminars)** are estimated from **0 to 10 points** by teachers who conducted practicals and seminars.

**Colloquium I is carried out in a week 6** - demonstration of a segment of neurological examination. Maximal points is 10.

**Colloquium II is carried out in 10th week.** Maximal points – 10. Students who miss colloquium test get 0 points. No remedial test colloquium for those who missed it.

Test consists of 10 questions. There are two types of questions: a) those that students are supposed to complete the statement (see below) and b) questions with 4 offered answers out of which one is correct

Test questions are based on practicum content (Neurological Examination Made Easy, Fuller G. Pub. Churchill Livingstone 5th. Ed.)

A.

The cardinal signs of upper motor neuron lesions are (name at least 4):

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

Hypotonia is seen in \_\_\_\_\_

B:

1. Homonymous hemianopia is characteristic for:

- a. the optic nerve lesion
- b. the optic chiasm lesion
- c. the lesion behind the optic chiasm
- d. the lesion anterior to the optic chiasm

2. In the presence of complete left optical nerve damage:

- a. the right pupil doesn't constrict to the direct light nor consensually when the light is shone into the left pupil
- b. the left pupil doesn't constrict to the direct light and there is no consensual reaction of the right pupil when the light is shone into the left eye
- c. the left pupil doesn't constrict to the direct light nor consensually when the light is shone into the right pupil
- d. the right pupil doesn't constrict to direct light and there is no consensual reaction of the left pupil when the light is shone into the right eye

### **FINAL NEUROLOGY EXAM consists of 5 parts:**

In case "face to face" practical exam is allowed:

- 1) **practical part** – demonstration of two segments of neurological examination; this exam part is a prerequisite for exam continuation. A student who receives a passing grade obtains **1-10 points**. The passing grade in practical part is valid in next exam terms up to the beginning of new academic year (October 2).
- 2) **Single best answer test consisting of 40 questions with 4 offered answers, out of which one is correct – 0-40 points**

**In order to pass the test and continue with exam, a student is obliged to have 21 correct answers.**

*Examples:*

1. Nerve root pain is characterized with:

- a. dull, diffuse pain increased with movements
- b. burning sensation relieved with movements
- c. severe, sharp, shooting pain radiating into the cutaneous distribution of the root\*
- d. swelling and redness of the skin above the nerve root

2. An immune-mediated disorder of generalized muscle weakness associated with small-cell lung cancer is:

- a. Lambert-Eaton syndrome\*
- b. botulism
- c. myotonic dystrophy
- d. myasthenia gravis

**3) Multiple answer test consisting of 6 questions with 5 offered answers, out of which 2 are correct - 0-6 points**

*Examples:*

1. In typical presentation of Huntington disease there are:

- a. chorea\*
- b. weakness of the limbs
- c. dementia \*
- d. ataxia
- e. sphincter disturbances

2. Vertigo is a frequent complaint, but etiological diagnosis based on clinical findings can be challenging. Which of the following statements are FALSE:

- a. Vertigo secondary to vestibular nerve pathology is typically associated with tinnitus\*
- b. Peripheral vertigo is usually associated with other brainstem symptoms and signs\*
- c. Benign positional vertigo is a self-limited syndrome of transient attacks of vertigo associated with a change in head position
- d. Vertigo may result from disease of the labyrinth, vestibular nerve or their central connections
- e. Peripheral vertigo typically aggravates with position changing

**4) Test with clinical vignettes – 0 – 4 points**

Short report of 2 cases with two questions and 4-5 offered answers, out of which one is correct.

*Example:*

A 67-year old male patient, smoker, for several weeks has been complaining of severe pain of the shoulder irradiating to the inner side of the arm, weak wasted hand muscles, sensory loss in the distribution of C8 and T1 dermatome associated with Horner's syndrome.

Q1. The highly suggestive diagnosis is (choose one):

- a. amyotrophic lateral sclerosis
- b. infarction of the brainstem
- c. apical lung carcinoma\*
- d. brachial neuritis
- e. diabetic amyotrophy

Q2. Initial diagnostic test should be (choose one):

- a. Head CT
- b. Head MRI
- c. X-ray of the lung\*
- d. EMNG
- e. CSF analysis

**5) Essay – systematized report of a disease given by a student, 0-10 points**

Epidemiological data (1 point), Etiopathogenesis (1 point), Clinical manifestations (3 points), Diagnostic procedure (2 points), Therapy (2 points), Prognosis (1 point).

**Essay topics:** Epilepsy; Multiple sclerosis; Parkinson disease; Ischemic stroke;

Hemorrhagic stroke (subarachnoid hemorrhage, intracerebral hemorrhage); Amyotrophic lateral sclerosis; Polyneuropathies; Myasthenia gravis; Dementias; Myopathies; Brain traumas; Children cerebral palsy; Migraine.

**In a practical part of colloquium 1 and practical part of final exam a student is obliged to demonstrate examination of:**

1. N. olfactorius
2. N. opticus
3. Nn. III, IV I VI
4. Pupil reaction to light and accommodation
5. N. trigeminus – examination of motor function
6. N. trigeminus – examination of sensibility
7. N. facialis (peripheral and central)
8. N. cochlearis
9. N. vestibularis
10. N. IX I X
11. N. XI
12. N. XII
13. Trophic and tonus examination on upper extremities
14. Trophic and tonus examination on upper extremities Examination of muscle strength on upper extremities, sinking tests
15. Examination of muscle strength on lower extremities, sinking tests
16. Muscle fatigue tests
17. Examination of muscle reflexes on upper extremities
18. Examination of muscle reflexes on lower extremities
19. Skin reflexes (abdominal skin reflexes, plantar reflex)
20. Examination of cerebral signs on upper extremities
21. Examination of cerebral signs on lower extremities
22. Romberg test
23. Examination of walk
24. Examination of superficial sensibility
25. Examination of deep position sensibility
26. Examination of vibration sensibility
27. Examination of cortical sensibility
28. Tests for radicular irritation
29. Examination of speech
30. Examination of nystagmus
31. Meningeal signs

**Areas for test questions of final exam include:**

#### GENERAL NEUROLOGY

1. Smell sense disorders
2. Loss of vision acuity and visual field deficit
3. Papilledema
4. Ophthalmoplegias
5. Pupil disorders
6. Neuralgia of n. trigemini
7. Facial muscles' disorders
8. Nystagmus

9. Central and peripheral vertigo
10. Symptoms and signs of central and peripheral motor neuron lesion
11. Muscle tone disorders
12. Muscle weakness
13. Reflexes
14. Coordination disorders
15. Paraplegias, quadriplegias, monoplegia
16. Sensitive syndromes
17. Spinal cord syndromes
18. Speech disorders (aphasia, anarthria, aphonia)
19. Amnestic disorders
20. Differential diagnosis of consciousness disorders
21. Diagnostic methods in neurology
22. Lumbar tap and cerebrospinal fluid
23. Extrapyrarnidal syndromes
24. Diseases of cerebellum
25. Syringomyelia, syringobulbia
26. Gait disorders
27. Cavernous sinus syndrome
28. Hydrocephalus
29. General symptoms and signs of intracranial hypertension
30. Psychomotor child development
31. Syndrome of hypotonic child (floppy baby)

#### SPECIAL NEUROLOGY

1. Risk factors and causes of cerebrovascular diseases
2. Acute ischemic stroke (classification, clinical picture, localization)
3. Intracerebral hemorrhage
4. Subarachnoid hemorrhage
5. Treatment of acute stroke
6. Primary and secondary prevention of cerebrovascular diseases
7. Epileptic seizure and epilepsy
8. Epileptic status (causes, treatment approach)
9. Treatment of epilepsy
10. Syncope (classification, diagnostic and treatment approach)
11. Brain and spinal cord trauma
12. Coma
13. Treatment of dementia
14. Alzheimer disease
15. Cerebral child palsy
16. Headache
17. Tumors of the brain, meninges and spinal cord
18. Acute inflammatory diseases of CNS (acute bacterial and viral meningitis, encephalitis)
19. Subcutaneous and chronic inflammatory diseases of CNS (brain abscess, HIV, tuberculosis, neurosyphilis, and prion diseases)
20. Transversal myelitis
21. Parkinson disease
22. Chorea
23. Hereditary ataxias
24. Wilson disease
25. Multiple sclerosis
26. Myasthenia gravis and other neuromuscular junction diseases
27. Motor neuron disease
28. Acute polyradiculoneuritis (Guillain Barre)

- 29. Cervical and lumbar pain syndrome and radiculopathies
- 30. Polyneuropathies
- 31. Acquired myopathies (inflammatory, metabolic)
- 32. Neurocutaneous syndromes (neurofibromatosis, tuberous sclerosis, Sturge-Weber)
- 33. Paraneoplastic syndromes

## GRADING SCHEME

| 1                    | 2                  | 3              | 4   | 5   | 6             | 7                | 8             |
|----------------------|--------------------|----------------|---|---|---------------|------------------|---------------|
| Active participation | Colloquium 1 and 2 | Practical exam | Single best answer in multiple choice question test | Multiple answers in multiple choice question test | Clinical case | Essay evaluation | FINAL score   |
| MAX 10 POINTS        | MAX 20 POINTS      | MAX 10 POINTS  | MAX 40 POINTS                                       | MAX 6 POINTS                                      | MAX 4 POINTS  | MAX 10 POINTS    | 1+2+3+4+5+6+7 |

| FINAL SCORE   | FINAL MARK |
|---------------|------------|
| <b>91-100</b> | <b>10</b>  |
| <b>81-90</b>  | <b>9</b>   |
| <b>71-80</b>  | <b>8</b>   |
| <b>61-70</b>  | <b>7</b>   |
| <b>51-60</b>  | <b>6</b>   |
| <b>≤ 50</b>   | <b>5</b>   |