	Questions Week 2	Required knowledge and skills
1.	What do we investigate when a lesion of n. opticus is suspected?	Visus, perimeter (homonymous and bitemporal hemianopsia), eye fundus
2.	Lesions n. III symptoms	Subjectively - diplopia, objectively - ptosis, divergent strabism, mydriasis
3.	Lesions n. IV	Subjectively diplopia when looking down and to the side, compensatory position of the head
4.	Lesions n. VI	Subjectively diplopia, objectively strabismus konvergens
5.	Internuclear ophthalmoparesis	Diplopia in horizontal view, paresis of adduction, nystagmus on the abducting eye, convergence is preserved
6.	Lesions of n. trigeminus	Sensitivity disorders in individual branches, absent reflex - corneal, maseter, neuralgic pains
7.	Paresis n. VII central	Resting drop of the corner, asymmetry of the mouth when valuing, mimic innervation of the upper half of the face is preserved
8.	Paresis n. VII peripheral	Smoothed wrinkles, lagophthalmus, drooping mouth corner, asymmetrical valuation, there may be loss of taste from the front 2/3 of the tongue
9.	Bulbar syndrome	Dysarthria and nasallia, dysphagia, droopal arches, decreased gag reflex, soft palate sensory disorder, tongue movement disorder, atrophy, fasciculation
10.	Pseudobulbar syndrome	Dysarthria, poorly expressed dysphagia, gag reflex is preserved, there is no atrophy and fasciculation on the tongue, often impaired executive functions, frontal syndrome, gait disturbance, incontinence
11.	Alternating stem syndromes mesencephalic	Ipsilateral paresis on III and IV, contralaterally central hemiparesis including central paresis n. VII
12.	Alternating pontine stem syndromes	Ipsilateral peripheral paresis on VII, contralaterally central hemiparesis
13.	Alternating stem syndromes oblongate	Ipsilateral paresis n. XII. - when crawling, the tongue resorts to the side of the lesion, contralaterally central hemiparesis
14.	Dysarthria and aphasia	Description of the disorder, method of examination, Wernicke's and Broca's aphasia, basic types of dysarthria
15.	Meningeal syndrome	Description of subjective symptoms, method of examination, most common causes
16.	Muscle tone and its disorders	Description of symptoms, examination of rigidity, spasticity and hypotonia, the most common causes
17.	Central paresis - the main characteristics	Description of symptoms, findings during examination, most common causes
18.	Peripheral paresis - the main characteristics	Description of symptoms, findings during examination, most common causes
19.	Spastic hemiparesis syndrome	Description of symptoms, findings during examination, most common causes

20.	Spastic paraparesis syndrome	Description of symptoms, findings during examination, most common causes
21.	Spastic quadriparesis syndrome	Description of symptoms, findings during examination, most common causes
22.	Cerebellar syndrome neocerebellar	Symptoms, examination, localization of the lesion, the most common causes
23.	Cerebellar syndrome paleocerebellar	Symptoms, examination, localization of the lesion, the most common causes
24.	Syringomyelic dissociation of sensation	Symptoms, examination, localization of the lesion, the most common causes
25.	Back cord syndrome	Symptoms, examination, localization of the lesion, the most common causes
26.	Polyneuropathic syndrome	Symptoms, examination, localization of the lesion, the most common causes
27.	Neurological gait disorders	Symptoms, examination, localization of the lesion, the most common causes
28.	Extrapyramidal hypokinetic	Symptoms, examination, the most common causes
29.	Hyperkinetic syndromes - tremor, myoclonus	Basic characteristics of movement, distribution, main units where it occurs
30.	Hyperkinetic syndromes - chorea, dystonia	Basic characteristics of movement, distribution, main units where it occurs
31.	Vestibular syndrome central (disharmonious)	Nystagmus and tonic deviations do not correspond in direction, nystagmus is often vertical, rotational,
32.	Vestibular syndrome peripheral (harmonic)	Rotational dizziness (vertigo), often nausea and vomiting, horizontal-rotational nystagmus (fast and slow component), tonic deviations to the side of the lesion
33.	Examination of impaired consciousness	Specifics of examination of an unconscious patient – mediated medical history, ensuring basic vital functions, quantitative and qualitative disorders of consciousness, GCS, the most common causes
34.	Radicular syndrome L4	Symptoms, examinations including indication of auxiliary examinations, causes
35.	Radicular syndrome L5	Symptoms, examinations including indication of auxiliary examinations, causes
36.	Radicular syndrome S1	Symptoms, examinations including indication of auxiliary examinations, causes
37.	Radicular syndrome C7	Symptoms, examinations including indication of auxiliary examinations, causes
38.	Cauda syndrome	Symptoms, examinations including auxiliary examinations, differential diagnosis, time indication of solution

Notes: For each question/examination, the student should be able to demonstrate independently how to perform the examination. At the same time, they must know what the test looks like in a physiological state, how it changes qualitatively or quantitatively in pathological conditions, in which syndromes these tests are positive, what are the most common causes of these abnormalities.

General neurology

	Question	*Content details, explanations*
1.	Disturbances of consciousness	definition, symptoms, severity assessment (GCS), topical dg.
2.	Cognitive impairment and lobe syndromes of the brain	cognitive function, examination, symptoms of disorders, disability syndromes of F – T – P – O lobe
3.	Speech disorders	aphasia, dysarthria, manifestations, examination
4.	Visual disturbances and oculomotor innervation	visual pathway, optic nerves, visual disturbances and oculomotor innervation, examination
5.	Dizziness and stability disturbances	vestibular and non-vestibular dizziness, peripheral and central vestibular syndrome, sensory and cerebellar ataxia
6.	Disorders of innervation n. V. and VII., alternating stem syndromes	Manifestations of disability N. trigeminus, peripheral and central paresis of N. facialis, alternating syndrome mesencephalic, pontinn, oblongate
7.	Bulbar and pseudobulbar syndrome, swallowing disorders	involvement of the lateral mixed system and n. hypoglossus, swallowing disorders, swallowing act and dysphagia, causes and symptoms
8.	Movement disorders syndromes	central and peripheral paresis, myasthenic syndrome, myopathic syndrome
9.	Extrapyramidal hypokinetic (Parkinsonian) syndrome	Description of symptoms, pathophysiology, classification of causes
10.	Hyperkinetic extrapyramidal syndromes tremor, chorea, dystonia, myoclonus, tics - description of symptoms, pathophysiology, classification of	tremor, chorea, dystonia, myoclonus, tics - description of symptoms, pathophysiology, classification of causes
11.	Cerebellar syndrome and cerebellar corner syndrome	Description of symptoms, pathophysiology, classification of causes
12.	Sensory disorders	manifestations of sensory disorders, syndromes of sensory disorders
13.	Pain	Classification, diagnostics basic, acute, chronic, analgesics, coanalgesics, therapeutic procedures
14.	Spinal syndromes	transverse syndrome, sy posterior and lateral cords, central spinal cord syndrome, spinal hemisection
15.	Gait disturbances	basic manifestations of gait disorders, anatomical-clinical classification
16.	Peripheral Disability Syndromes nerves on the upper limb	manifestations and clinical signs of lesions of N. medianus, ulnaris,
17.	Peripheral Disability Syndromes nerves on the lower limb	Manifestations and clinical signs of lesions of N. femoralis, sciatica and tibialis, peroneus
18.	Disorders of the autonomic nervous system	sympathetic and parasympathetic nervous system, hypothalamic sy, Horner's sy, orthostatic hypotension,
19.	Spinal root root syndromes	radicular syndromes, spinal cauda syndrome
20.	Intracranial hypertension syndrome	symptoms, causes and mechanisms, hydrocephalus, herniation of the brain
21.	Meningeal syndrome	clinical signs and tests, cerebrospinal fluid findings
22.	Delirium in neurology	Diagnostics, complications, most common causes, basic management, prevention
23.	Imaging methods in neurology	X-ray, CT and MRI examinations; SPECT and PET, principles of methods, indications and contraindications, main pathological
24.	Electrophysiological examination in neurology	principle of methods, indications, contraindications and main pathological findings of EEG, EMG, evoked potentials

25.	Examination of cerebrospinal fluid	Indications and contraindications for lumbar puncture Normal findings and major pathological findings
26.	Functional movement disorders	Clinical trials to investigate functional weakness (Dufour test with decline without pronation, Hoover's sign) and involuntary movements (significant mitigation/disappearance when distracted by a competing motor or cognitive task)

Special neurology

	Question	***Content details, explanations***
1.	Differential diagnosis of disorders of consciousness	Classification – acute, paroxysmal, chronic, manifestations, syncope, craniotrauma, epileptic and non-epileptic seizures, intoxication, metabolic disorders
2.	Headache, neuralgia, neuropathic pain	Primary and secondary headache, cranial neuralgia, atypical orofacial pain, clinical manifestations, dif. dg., auxiliary examinations, acute and chronic therapy, prophylaxis
3.	Vertebrogenic algic syndromes	acute segmental syndrome, discopathy, Radicular syndromes, diagnostics, dif. dg., complications, auxiliary examinations, acute and chronic therapy, including prophylaxis and rehabilitation
4.	Intracranial and spinal cord tumors	primary, metastatic and paraneoplastic neurological syndromes – clinical manifestations, dg. and dif. dg., imaging findings, therapy
5.	Inflammations of the brain and spinal cord	overview and manifestations of neuroinfectious diseases, meningitis, encephalitis and myelitis, abscesses and parasitic lesions of the brain and spinal cord, cerebrospinal fluid findings, therapy
6.	Ischemic stroke	clinical forms and their manifestations, causes, pathophysiology, imaging findings, therapy, prevention, prophylaxis
7.	Spontaneous subarachnoid and cerebral parenchymal hemorrhage	clinical manifestations, causes, pathophysiology, imaging findings, therapy
8.	Traumas of the craniocerebral and spinal cord	MTBI, diffuse axonal injury, epidural and subdural hematoma; Spinal cord lesions – clinical manifestation, dif. dg., examination, therapy
9.	Epileptic seizures and epilepsy	Classification of seizures and epileptic syndromes, diagnosis including typical EEG images, therapy
10.	Polyradiculoneuritis and Polyneuropathy acute and chronic	acute and chronic autoimmune neuritis, metabolic and toxic neuropathy – clin. manifestations, differential diagnosis, EMG, therapy
11.	Neuromuscular diseases	mono- and polyneuropathy, motoneuron diseases, myopathy, neuromuscular transmission disorders, EMG findings
12.	Multiple sclerosis of the cerebrospinal cord and other demyelinating and autoimmune CNS diseases	clinical manifestations, dg. and dif. dg., cerebrospinal fluid and imaging findings, therapy, complications

13.	Parkinson's disease and others diseases with manifestations of Parkinsonian syndrome	clinical manifestations, dg. and dif. dg., pharmacol. tests and imaging findings, therapies, complications
14.	Movement disorders with hyperkinetic manifestations	essential tremor and other causes of tremor, Huntington's diseaseand other choreatic diseases, dystonic and myoclonic syndromes, tics
15.	Alzheimer's disease and others dementia	epidemiology, nosological classification, pathology, diagnostics, therapy
16.	Toxic and metabolic disorders of the nervous system	drug disorders, intoxication, addictive substances, disorders of glucose and electrolyte metabolism, malnutrition syndromes
17.	Diseases of the spinal cord	traumas, tumors, inflammations, syringomyelia, myelopathy, clinical pictures, diagnostics and therapies
18.	Psychiatric complications in selected diagnoses	Movement disorders - Parkison's disease, Huntington's disease, Wilson's disease, Tourette's syndrome, Autoimmune diseases – sclerosis multiplex, autoimmune encephalitis (limbic encephalitis), Epilepsy, stroke - Clinical manifestations, basic management
19.	Sleep disorders	Diseases with excessive daytime sleepiness, with poor-quality nocturnal sleep and abnormal behavior during sleep
20.	Neurodevelopmental diseases	cerebral palsy, ADHD, autism spectrum disorders, Tourette's syndrome, dif. dg., pathophysiology, clinical picture, therapy
21.	Functional neurological disorders	definition, diagnostics, basic description of functional movement disorders, sensory functional disorders, PNES, basic management

Questions - Practical

	Item	**Method of examination**
	Optimal position	*Sitting*
1.	Consciousness, orientation, memory, behavior	Approximate assessment of alertness, attention, orientation by person, time and place – 1) What day is it? (exact date or day of the week) 2) Where are we? 3) How old are you? 4) Where do you live? Memory assessment based on anamnestic data recall. Assessment of behavior during the examination.
2.	Speech including articulation	During normal conversation within the collection of anamnesis and self-examination, orientation assessment of speech in terms of phatic functions (fluency, verbal content, word search, sentence structure, comprehension of instructions) and in terms of articulation (volume, phonation, articulation, fluency, melodic).
3.	Basic examination of the visual field	In all quadrants including bilateral simultaneous stimulation. The examiner is against the patient at a distance of about 1 m, arms spread so that the hands are in the middle of the distance. He asks the patient to look at his nose and report when he sees the movement of fingers in the upper quadrants of the visual field. Then move the fingers alternately on the right and left hands, and then simultaneously on both hands. Similarly, in the lower quadrants of the visual field. The interrogator checks that he also sees the movement himself (confrontational examination).
4.	Eye tracking movements and pupilary assessment	At least an arm's length from the eyes, the patient follows the object (finger, hammer, etc.) in a horizontal and then vertical direction ("to the

		cross") without moving the head (the instruction to put the index finger on the chin will help). The extent and fluidity of eye movement, or nystagmus, is evaluated. Question about dipplopia. Assessment of pupil width.
5.	Photoreaction	The examiner places one of his hands with the little finger edge in the area of the nose so as to shield the exposure of the other eye with his hand and with the help of light from a flashlight shines into one eye and monitors the condition of the pupils on the side of the exposure (direct reaction) and on the other (indirect)
6.	Examination of the tongue	The position of the tongue at rest and when protruding, including the assessment of atrophy, fasciculations.
7.	Facial mobility examination	Facial expression and symmetry at rest and in everyday conversation. Targeted movements in the innervation area of the upper and lower part of the facial nerve (raises eyebrows, bares teeth).
8.	Muscle tone on upper extremities	Resistance to passive movement in the wrist and elbow (slow movement – rigidity, fast – spasticity).
9.	Tests of muscle strength on upper extremities	Examination of proximal and distal muscle groups – 1) Elbow elevation above the horizontal (arms bent in abduction), 2) Simultaneous squeezing of both hands (the examiner inserts his two fingers into each palm of the patient). Both tests are carried out with maximum force against resistance, the examiner assesses the strength and symmetry.
10.	Bicipital reflex	Passive semiflexion in the elbow, supported forearm, relaxed muscles. Tap the tendon of the m. biceps in the elbow. Assessment of recall, symmetry.
11.	Tricipital reflex	Passive abduction in the shoulder and semiflexion in the elbow, relaxed muscles. Direct tapping of the m. triceps tendon above the olecranon ulnae. Assessment of reaction, its symmetry.
12.	Fast alternating movements (finger tapping)	Patient lifts one hand and ten times taps the thumb against the index finger, other finger remain flexed. We ask for maximum speed and amplitude of the movement. We assess the amplitude, frequency hesitations and freezing. Each hand is assessed independently.
13.	Dufour's symptom	Both arms into the horizontal at maximum supination, eyes closed (assessment of possible rotation into pronation and/or decrease of HK).
14.	Taxe finger-nose	Spread arms, eyes open/closed, touch successively with the right and left index fingers the tip of the nose. The movement should not be too slow or fast, optimally about 1 sec.
	Optimal position	*lying on your back*
15.	Muscle tone on lower extremities	Resistance to passive movement in the hock and knee (slow movement – rigidity, fast – spasticity).
16.	Tests of muscle strength on lower extremities	Examination of proximal and distal muscle groups – 1) Strength of flexion in hip – elevation of knees, 2) Dorsal and plantar flexion of the foot. Both tests are carried out with maximum force against resistance, the examiner assesses the strength and symmetry. Alternatively, 2) walking on heels and toes. We evaluate elevation height and symmetry.
17.	Patellar reflex	Legs in semiflexion, heels resting on the mat, the examiner can support the thigh, tapping the tendon m. quadriceps under the patella. Assessment of recall, symmetry.
18.	Achilles tendon reflex/ medioplantar	Legs in semiflexion, the examiner holds the leg so that the m. triceps is in adequate preload. Tap the tendon or medioplantarly. Assessment of recall, symmetry.
19.	Mingazzini sign	Legs raised, not touching, thighs vertically, lower legs horizontally, the examiner possibly adjusts to a symmetrical position. We evaluate the decrease in the lower leg.
20.	Babinsky sign	Irritation of the planta with a reasonably sharp object (not a pin) along the outer edge from the heel and under the heads of the metatarsus towards the thumb.

21.	Heel-knee	Lying down (without eye control), from the starting position with legs extended, placing the heel from above upon the knee and sliding down the shbn to the ankle.
22.	Tactile sensation	Touches on both sides on the face, back of the forearm or hands, and on the thigh or lower leg. The patient reports whether the touches feel symmetrical.
	Optimal position	*standing and walking*
23.	Standing I-II Romberg test (stand III)	Examination of the stand on a normal basis, on a narrow base. Stand connective, then close the eyes. The deterioration of stability within 20 s after closing the eyes, or widening the base, stepping to the side is assessed. Slight uncertainty and oscillation in place without stepping are within the limits of the norm.
24.	Gait	Evaluate walking at a distance of at least 3 m and back. Posture, base width , stride length, speed, symmetry, arm swinging, turns – instability, stops are assessed.
25.	Tandem walking	Walking along an imaginary line

Key: HK – upper limbs, DK – lower limbs

Note: The patient should be stripped to his underwear during the examination.

For each question/examination, the student should be able to demonstrate independently how to take the examination.

At the same time, they must know what the test looks like in a physiological state, how it changes qualitatively or quantitatively under pathological conditions, in which syndromes these tests are positive, what are the most common causes of these abnormalities.