

MINISTRY OF HEALTH REPUBLIC BELARUS
GOMEL STATE MEDICAL UNIVERSITY
DEPARTMENT OF NEUROLOGY AND NEUROSURGERY WITH COURSES OF MEDICAL
REHABILITATION, PSYCHIATRY, FPCiP

*The list of exam questions for a specialty «neurology and neurosurgery» for 4 courses students of
the faculty of foreign students*

1. Voluntary movement, anatomy of corticospinal (pyramidal) tract.
2. Syndromes of corticospinal tract lesion.
3. Deep, superficial and pathological reflexes, examination, clinical significance.
4. Signs of central paralysis, clinical significance.
5. Signs of flaccid paralysis, clinical significance.
6. Extrapyramidal system. Anatomy, physiology, functions.
7. Parkinson's syndrome.
8. Hyperkinetic syndrome. Types of hyperkinesis.
9. Pathways of deep sensitivity.
10. Pathways of superficial sensitivity.
11. Types of sensory disorders. Examination of sensory system.
12. Syndromes of sensory tracts lesions (peripheral, spinal, cerebral), clinical significance.
13. Cerebellum. Anatomy, function. Anterior and posterior spino-cerebellar tracts.
14. Types of ataxia. Cerebellar ataxia.
15. Anatomy of the autonomic nervous system. Parasympathetic division. Symptoms of a lesion.
16. Anatomy of the autonomic nervous system. Sympathetic division. Symptoms of a lesion.
17. Vegetative innervation of the eye. Pupil reflex arc. Horner's syndromes, Pty syndrome.
18. Types of bladder and bowel disturbances.
19. Olfactory nerve. Anatomy, physiology, methods of examination, symptoms of lesion.
20. Optic nerve. Anatomy, physiology, methods of examination, symptoms of lesion.
21. Oculomotor nerve. Anatomy, physiology, methods of examination, symptoms of lesion.
22. Trochlear and abducens nerves. Anatomy, physiology, methods of examination, symptoms of lesion.
23. The trigeminal nerve. Anatomy, physiology, methods of examination, symptoms of lesion.
24. Facial nerve. Anatomy, physiology, methods of examination.
25. Central and peripheral facial paralysis. Etiology, differential diagnosis, treatment.
26. Symptoms of facial nerve damage at the different levels.
27. Anatomy of the vestibular analyzer. Symptoms of a lesion. Symptoms of vestibular ataxia.
28. Anatomy and function of the auditory analyzer. Methods of examination. Symptoms of a lesion.
29. Glossopharyngeal nerve. Anatomy, physiology, methods of examination, symptoms of lesion.
30. Vagus nerve. Anatomy, physiology, methods of examination, symptoms of lesion.
31. Accessory nerve. Anatomy, physiology, methods of examination, symptoms of lesion.
32. Hypoglossal nerve. Anatomy, physiology, methods of examination, symptoms of lesion.
33. Bulbar and Pseudobulbar syndrome . Etiology, symptoms and diagnostics.
34. Alternating syndromes in midbrain and pons lesions: Weber, Miyar–Gubler and Foville’s syndromes.
35. Alternating syndromes in medulla oblongata lesions: Wallenberg–Zakharchenko, Jackson, Dejerine syndromes.
36. Blood supply of the brain.
37. Spinal cord blood supply.
38. Anatomy and symptoms of the frontal lobe lesion.
39. Anatomy and symptoms of the temporal lobe lesion.
40. Anatomy and symptoms of the parietal lobe lesion.
41. Anatomy and symptoms of the occipital lobe lesion.
42. Thalamus and symptoms of its lesion.
43. Internal capsule, anatomy and symptoms of its lesion.
44. Brown-Sequard syndrome, symptoms and clinical significance.

45. Syndrome of complete transverse lesion of the upper cervical spinal cord (C₁–C₄).
46. Syndrome of complete transverse lesion of the cervical spinal cord (C₅–Th₂).
47. Syndrome of complete transverse lesion of the thoracic spinal cord (Th₃–Th₁₂).
48. Syndrome of complete transverse lesion of the lumbar spinal cord (L₁–S₂).
49. Syndrome of an epiconus (S₁–S₂), a cone (S₃–S₅), and a horse tail (L₂–S₅) of a spinal cord lesion.
50. Agnosia. apraxia. Types, symptoms.
51. Types and symptoms of speech disorders (aphasia, dysarthria, alalia, mutism).
52. Types and symptoms of disorders of consciousness: stunning, stupor, coma. Glasgow Coma Scale.
53. Brain death. Diagnostic criteria.
54. Anatomy of the brain and spinal cord meninges. Cerebrospinal fluid circulation and resorption. Characteristics of normal cerebrospinal fluid.
55. Lumbar puncture. Indications, contraindications, complications.
56. Meningeal syndrome, meningism. Etiology, symptoms.
57. Closed (occlusive) and open (areresorptive) hydrocephalus. Etiology, pathogenesis, symptoms, diagnosis, treatment.
58. Neuroborreliosis. Etiology, pathogenesis, stages, symptoms, diagnosis, treatment.
59. Primary purulent meningitis. Etiology, pathogenesis, symptoms, treatment.
60. Secondary purulent meningitis. Etiology, pathogenesis, symptoms, diagnosis, treatment.
61. Tuberculous meningitis. Etiology, pathogenesis, symptoms, diagnosis.
62. Tick-borne encephalitis: eastern and western variants. Etiology, pathogenesis, symptoms, diagnosis, treatment.
63. Epidemic encephalitis Economo. Etiology, pathogenesis, symptoms, diagnosis, treatment.
64. Herpetic encephalitis. Etiology, pathogenesis, symptoms, diagnosis, treatment.
65. Poliomyelitis. Etiology, pathogenesis, symptoms, diagnosis, treatment.
66. Lesions of the nervous system in syphilis. Classification, symptoms, diagnosis, treatment.
67. Damage of the nervous system in diffuse diseases of the connective tissue (rheumatism, periarteritis, vasculitis).
68. Damage of the nervous system in diabetes mellitus. Diabetic polyneuropathy. Pathogenesis, symptoms, diagnosis, treatment.
69. Damage of the nervous system in diseases of the blood and heart diseases.
70. Damage of the nervous system in alcoholism. Pathogenesis, symptoms, diagnosis, treatment.
71. Damage of the nervous system in HIV infection, pathogenesis, symptoms, diagnosis, treatment.
72. Multiple sclerosis. Etiology, pathogenesis, symptoms, diagnosis, diagnostic criteria of McDonald.
73. Multiple sclerosis. Principles of treatment (drugs, criteria for prescribing).
74. Acute disseminated encephalomyelitis. Etiology, pathogenesis, symptoms, diagnosis, treatment.
75. Acute inflammatory demyelinating polyradiculoneuropathy Guillain–Barré. Etiology, pathogenesis, symptoms, diagnosis, treatment.
76. Chronic inflammatory demyelinating polyradiculoneuropathy. Etiology, pathogenesis, symptoms, diagnosis, treatment.
77. Diabetus polyneuropathy. Etiology, pathogenesis, symptoms, diagnosis, treatment.
78. Diphtheritic polyneuropathy. Etiology, pathogenesis, symptoms, diagnosis, treatment.
79. Amyotrophic lateral sclerosis. Etiology, pathogenesis, symptoms, diagnosis, treatment.
80. Syringomyelia and syringobulbia. Etiology, pathogenesis, symptoms, diagnosis, treatment.
81. Epilepsy. Etiology, pathogenesis, classification of epileptic seizures. Symptoms of focal and generalized epileptic seizures. Diagnosis of epilepsy.
82. Status epilepticus, new clinical criteria. Emergency care for epileptic seizure and status.
83. Anticonvulsant therapy. Absolute and relative contraindications to work.
84. Treatment of drugresistant epilepsy: drug therapy, ketogenic diet, surgical treatment.
85. Transient ischemic attack, acute hypertensive crisis, transient global amnesia and acute hypertensive encephalopathy. Etiology, pathogenesis, symptoms, diagnosis, treatment.
86. Cerebral infarction (stroke). Etiology, risk factors, pathogenetic types.
87. Symptoms of cerebral infarction in the carotid arteries.

88. Symptoms of cerebral infarction in the vertebro-basilar basin.
89. Basic stroke therapy. Emergency medical treatment of the stroke.
90. Differentiated therapy of cerebral infarction. Thrombolysis, surgical treatment.
91. Intracerebral hemorrhage. Etiology, pathogenesis, symptoms, drug therapy, diagnosis. Indications for surgical treatment.
92. Subarachnoid non-traumatic hemorrhage. Etiology, pathogenesis, symptoms, diagnosis, treatment. Indications for surgical treatment.
93. Instrumental methods for the diagnosis of vascular diseases of the nervous system.
94. Surgical treatment of occlusive processes of extra- and cerebral vessels.
95. Chronic ischemia of the brain. Stages, symptoms, diagnostics, treatment.
96. Carotid-cavernous anastomosis. Symptoms, diagnosis, treatment.
97. Saccular aneurysms and arterio-venous malformations. Symptoms, diagnosis, surgical treatment.
98. Spinal cord infarction. Etiology, pathogenesis, symptoms, diagnosis, treatment.
99. Primary progressive muscular dystrophy. Duchenne's myodystrophy. Etiology, symptoms, diagnosis, treatment.
100. Myotonia congenital. Etiology, clinic, diagnosis, treatment.
101. Friedreich's disease. Clinic, diagnosis, treatment options.
102. Modern classification of hereditary polyneuropathy. Charcot–Marie–Tooth polyneuropathy. Clinic, diagnosis, therapy.
103. Progressive spinal amyotrophy (Werdnig–offmann disease). Clinic, diagnosis, modern treatment.
104. Parkinson's disease and parkinsonism syndrome. Etiology, pathogenesis, clinic, diagnosis.
105. Parkinson's disease. Drug therapy (principles of prescription and groups of drugs) and surgical treatment.
106. Huntington's disease. Etiology, clinic, diagnosis, treatment.
107. Creutzfeldt–Jacob disease. Etiology, pathogenesis, clinic, diagnosis, treatment.
108. Alzheimer's disease, Pick disease. Etiology, pathogenesis, clinic, diagnosis, treatment.
109. Wilson disease. Etiology, pathogenesis, clinic, diagnosis, treatment.
110. Hereditary spastic paraplegia (Strumpell disease). Etiology, pathogenesis, clinic, diagnosis, treatment.
111. Spinocerebellar ataxia. Clinic, diagnosis, treatment.
112. Myasthenia. Etiology, pathogenesis, classification, symptoms, diagnosis, differential diagnosis.
113. Myasthenia. Principles of treatment. Myasthenic and cholinergic crises, symptoms, emergency care.
114. Tumors of the chiasmatic-sellar region. Symptoms, diagnosis, treatment.
115. Subtentorial tumors. Symptoms, diagnosis, treatment.
116. Symptoms of brain tumors with localization in the frontal lobe.
117. Symptoms of brain tumors with localization in the temporal lobe.
118. Symptoms of brain tumors with localization in the occipital lobe.
119. Symptoms of brain tumors with localization in the parietal lobe.
120. Extramedullary spinal cord tumors. Classification, clinic, diagnostics, treatment.
121. Intramedullary spinal cord tumors. Classification, clinic, diagnostics, treatment.
122. Neurocysticercosis. Etiology, clinic, diagnosis, treatment. Bruns syndrome.
123. Neurotoxoplasmosis. Etiology, clinic, diagnosis, treatment.
124. Echinococcosis. Etiology, clinic, diagnosis, treatment.
125. Brain abscess. Etiology, pathogenesis, clinic, diagnosis, surgical treatment.
126. Classification of traumatic brain injury. Emergency care and transportation of the patients.
127. Mild traumatic brain injury: concussion and contusion of the brain. Clinic, diagnosis, treatment.
128. The moderate traumatic brain injury. Clinic, diagnosis, treatment.
129. Severe traumatic brain injury. Clinic, diagnosis, treatment.
130. Intracranial traumatic hemorrhages. Clinic, diagnosis, methods of surgical treatment.
131. Spinal cord contusion, hematomyelia. Clinic, diagnosis, emergency care and transportation of patients.
132. Migraine. Pathogenesis, classification, clinic, diagnosis, treatment, prevention.

133. Tension headache. Etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment and prevention.
134. Cluster headache. Etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment and prevention.
135. Trigeminal neuralgia. Etiology, pathogenesis, clinic, diagnosis, differential diagnosis, treatment.
136. Classification of the neurological disorders at the backbone osteochondrosis (pain in the back). Stages of the disease: reflex, radicular, compressive-ischemic.
137. Reflex syndromes of neurological manifestations of the backbone osteochondrosis at the cervical, thoracic and lumbosacral level (pain in back).
138. Radiculopathy C₅-C₆, C₇-C₈, L₂-L₄, L₅-S₁. Clinic, diagnosis, treatment.
139. Cervical myelopathy: clinic, diagnosis, treatment.
140. Treatment of neurological manifestations of the backbone osteochondrosis (pain in the back). Absolute and relative indications for surgical treatment and its types.
141. Brachial plexopathy. Etiology, pathogenesis, clinic, diagnosis, treatment.
142. Neuropathy of the median nerve. Etiology, pathogenesis, clinic, diagnosis, treatment.
143. Neuropathy of the ulnar nerve. Etiology, pathogenesis, clinic, diagnosis, treatment.
144. Neuropathy of the radial nerve. Etiology, pathogenesis, clinic, diagnosis, treatment.
145. Neuropathy of the femoral nerve. Etiology, pathogenesis, clinic, diagnosis, treatment.
146. Neuropathy of the peroneal nerve. Etiology, pathogenesis, clinic, diagnosis, treatment.
147. Neuropathy of the tibial nerve. Etiology, pathogenesis, clinic, diagnosis, treatment.
148. Ultrasound diagnosis in neurology and neurosurgery: ultrasound examination of the brachiocephalic arteries and nerve trunks. Transcranial Doppler. Echoencephalography.
149. Neuroimaging (computer tomography, magnetic resonance imaging, positron emission tomography, subtraction selective angiography). Their meaning in the diagnosis of neurological, neurosurgical diseases and injuries.
150. Neurophysiological research methods (electroencephalography, electroneuromyography, evoked potentials).

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