

EDUCATIONAL INSTITUTION  
GOMEL STATE MEDICAL UNIVERSITY  
SPECIALTY 1–79 01 01 GENERAL MEDICINE

LIST OF QUESTIONS FOR THE COURSE EXAM IN NEUROLOGY AND NEUROSURGERY FOR  
4TH-YEAR STUDENTS OF THE FACULTY OF MEDICINE  
AND THE FACULTY OF FOREIGN STUDENTS

1. The system of voluntary movements, the structure of the corticospinal (pyramidal) tract.
2. Syndromes of pyramidal tract damage at various levels.
3. Deep, superficial, and pathological reflexes. Research methods and clinical significance.
4. Causes, characteristics and diagnostic significance of central paralysis.
5. Causes, characteristics and diagnostic significance of peripheral paralysis.
6. Extrapyramidal system. Anatomy, physiology, functional significance.
7. Hypotonic -hyperkinetic syndrome. Types of hyperkinesia.
8. Hypertensive-hypokinetic syndrome (Parkinsonism syndrome): etiology and clinical picture.
9. Definition and pathway of deep sensitivity.
10. Definition and pathway of superficial sensitivity.
11. Types of sensitivity disorders. Methods for studying deep and superficial sensitivity.
12. Types of sensory disorders (peripheral, spinal, cerebral).
13. Pathophysiological classification of pain. Clinical features of nociceptive , neuropathic , and dysfunctional pain.
14. Cerebellum. Anatomy, functions. Anterior (Gowers') and posterior (Flechsigs) spinocerebellar tracts.
15. Ataxia. Types, topical and diagnostic significance. Cerebellar ataxia.
16. Structure of the autonomic nervous system. Parasympathetic division. Symptoms of damage.
17. Structure of the autonomic nervous system. Sympathetic division. Symptoms of damage.
18. Autonomic innervation of the eye. Pupillary reflex arc. Horner's and Petit's syndromes .
19. Pelvic organ innervation. Types and varieties of pelvic disorders.
20. Olfactory nerve. Anatomy, physiology, research methods, symptoms of damage.
21. Optic nerve. Anatomy, physiology, research methods, symptoms of damage.
22. Oculomotor nerve. Anatomy, physiology, research methods, symptoms of damage.
23. Trochlear and abducens nerves. Anatomy, physiology, examination methods, symptoms of damage.
24. Trigeminal nerve. Anatomy, physiology, examination methods, symptoms of damage. Types of sensory disturbances on the face.
25. Facial nerve. Anatomy, physiology, research methods.
26. Peripheral and central variants of facial nerve damage. Etiology, differential diagnosis, and treatment.
27. Facial nerve. Symptoms of damage at various levels, topical diagnostic significance.
28. Structure of the vestibular analyzer. Examination methods, symptoms of damage.
29. Structure and function of the auditory analyzer. Examination methods, symptoms of damage.
30. Glossopharyngeal nerve. Anatomy, physiology, examination methods, symptoms of damage.
31. Vagus nerve. Anatomy, physiology, research methods, symptoms of damage.
32. Accessory nerve. Anatomy, physiology, examination methods, symptoms of damage.
33. Hypoglossal nerve. Anatomy, physiology, examination methods, symptoms of damage.
34. Bulbar and pseudobulbar syndrome. Etiology, clinical features, and diagnostics.
35. The concept of peduncular and pontine alternating syndromes. Weber, Millard - Gubler , and Foville syndromes.
36. The concept of alternating syndromes of the medulla oblongata. Wallenberg -Zakharchenko, Jackson, and Dejerine syndromes.
37. Blood supply of the brain.
38. Blood supply of the spinal cord.
39. Structure, functions and symptoms of damage to the frontal lobe of the brain.
40. Structure, functions and symptoms of damage to the temporal lobe of the brain.
41. Structure, functions and symptoms of damage to the parietal lobe of the brain.
42. Structure, functions and symptoms of damage to the occipital lobe of the brain.

43. Thalamus, anatomy, functions and symptoms of its damage.
44. Internal capsule, topography and symptoms of its damage.
45. Brown-Sequard syndrome, causes and clinical picture.
46. Syndrome of complete transverse lesion of the upper cervical spinal cord (C<sub>1</sub>–C<sub>4</sub>), causes and clinical picture.
47. Syndrome of complete transverse lesion of the cervical spinal cord thickening (C<sub>5</sub>–Th<sub>2</sub>), causes and clinical picture.
48. Syndrome of complete transverse thoracic spinal cord lesion (Th<sub>3</sub>–Th<sub>12</sub>), causes and clinical picture.
49. Syndrome of complete transverse lesion of the lumbar thickening of the spinal cord (L<sub>1</sub>–S<sub>2</sub>), causes and clinical picture.
50. A syndrome of damage to the epicone (S<sub>1</sub>–S<sub>2</sub>), cony (S<sub>3</sub>–S<sub>5</sub>) and cauda equina (L<sub>2</sub>–S<sub>5</sub>) of the spinal cord.
51. Agnosia. Definition, types, topical and diagnostic significance.
52. Apraxia. Definition, types, and topical diagnostic significance.
53. Types and characteristics of speech disorders (aphasia, dysarthria, alalia, mutism).
54. Aphasia. Definition, types, topical and diagnostic significance.
55. Types and diagnostic criteria for disorders of consciousness: obtundation, stupor, coma. Glasgow Coma Scale.
56. Brain death: definition and diagnostic criteria. Indications for disconnecting the ventilator. Physician's legal liability.
57. Topography of the membranes of the brain and spinal cord. Cerebrospinal fluid dynamics . Cerebrospinal fluid composition is normal.
58. Lumbar puncture. Indications, contraindications, complications, technique of implementation.
59. Meningeal syndrome, meningism. Etiology, clinical picture.
60. Closed (occlusive) and open (aresorptive) hydrocephalus. Etiology, pathogenesis, clinical features, diagnosis, treatment.
61. Neuroborreliosis. Etiology, pathogenesis, stages, clinical features, diagnosis, treatment.
62. Primary purulent meningitis. Etiology, pathogenesis, clinical features, treatment.
63. Secondary purulent meningitis. Etiology, pathogenesis, clinical features, diagnosis, and treatment.
64. Tuberculous meningitis. Etiology, pathogenesis, clinical features, diagnosis.
65. Tick-borne encephalitis: Eastern and Western variants. Etiology, pathogenesis, clinical features, diagnosis, and treatment.
66. Economo's epidemic encephalitis . Etiology, pathogenesis, clinical features, diagnosis, and treatment.
67. Herpes encephalitis. Etiology, pathogenesis, clinical features, diagnosis, and treatment.
68. Poliomyelitis. Etiology, pathogenesis, clinical features, diagnosis, treatment.
69. Nervous system damage in syphilis. Classification, clinical presentation, diagnosis, and treatment.
70. Damage to the nervous system in diffuse connective tissue diseases (rheumatism, rheumatoid arthritis, SLE, periarteritis, vasculitis).
71. Classification of nervous system lesions in diabetes mellitus. Diabetic polyneuropathy. Pathogenesis, clinical features, diagnosis, and treatment.
72. Damage of the nervous system in blood diseases and heart diseases.
73. Nervous system damage in alcoholism. Alcoholic polyneuropathy. Pathogenesis, clinical features, diagnosis, and treatment.
74. Damage of the nervous system in HIV infection, pathogenesis, clinical presentation, diagnosis, treatment.
75. Multiple sclerosis. Etiology, pathogenesis, clinical features, diagnosis, McDonald diagnostic criteria.
76. Multiple sclerosis. Treatment principles. Relief of exacerbations, Disease-modifying therapies (medications, prescribing criteria).
77. Acute disseminated encephalomyelitis. Etiology, pathogenesis, clinical features, diagnosis, and treatment.
78. Acute inflammatory demyelinating polyradiculoneuropathy Guillain -Barre. Etiology, pathogenesis, clinical picture, diagnosis, treatment.
79. Chronic inflammatory demyelinating Polyradiculoneuropathy. Etiology, pathogenesis, clinical features, diagnosis, treatment.
80. Diphtheria polyneuropathy. Etiology, pathogenesis, clinical picture, diagnosis, treatment.
81. Amyotrophic lateral sclerosis. Etiology, pathogenesis, clinical features, diagnosis, and treatment.
82. Syringomyelia and syringobulbia. Etiology, pathogenesis, clinical features, diagnosis, and treatment.

83. Epilepsy. Definition, etiology, pathogenesis, and classification of epileptic seizures. Clinical presentation of focal and generalized epileptic seizures. Diagnosis of epilepsy.
84. Status epilepticus. New definition and pathogenesis. Emergency care for epileptic seizures and status epilepticus.
85. Anticonvulsant therapy (medications, treatment principles and regimens, criteria for prescribing and discontinuing medications). Absolute and relative contraindications to work.
86. Treatment of drug-resistant epilepsy: conservative, ketogenic diet, surgical.
87. Acute transient cerebrovascular diseases: classification, etiology, pathogenesis, clinical presentation, diagnosis, treatment.
88. Cerebral infarction. Etiology, risk factors, pathogenetic variants.
89. Symptoms of cerebral infarction in the carotid basin.
90. Symptoms of cerebral infarction in the vertebrobasilar basin.
91. Basic therapy for acute cerebrovascular diseases. Emergency care procedures.
92. Differentiated therapy for cerebral infarction. Thrombolysis, surgical treatment methods.
93. Intracerebral hemorrhage. Etiology, pathogenesis, clinical features, drug therapy, diagnosis. Indications for surgical treatment.
94. Non-traumatic subarachnoid hemorrhage. Etiology, pathogenesis, clinical features, diagnosis, and treatment. Indications for surgical treatment.
95. Instrumental methods for diagnosing vascular diseases of the nervous system.
96. Surgical treatment of occlusive processes of extra- and intracerebral vessels.
97. Chronic cerebral ischemia (dyscirculatory encephalopathy). Stages, clinical features, diagnosis, and treatment.
98. Carotid-cavernous junction. Concept, main clinical manifestations, diagnosis, and treatment.
99. Saccular aneurysms. Arteriovenous malformations. Definition, main clinical manifestations, diagnosis, and surgical treatment.
100. Acute disorders of spinal blood supply. Adamkiewicz and Gotteron artery syndromes: clinical presentation, diagnosis, and treatment.
101. Primary progressive muscular dystrophies. Myodystrophy Duchenne . Etiology, clinical features, diagnosis, treatment.
102. Myotonia Thomsen. Etiology, clinical presentation, diagnostics, treatment.
103. Friedreich's disease. Clinical features, diagnosis, and treatment options.
104. Modern classification of hereditary polyneuropathies. Hereditary sensorimotor polyneuropathy: types, clinical features, diagnosis, and treatment.
105. Progressive spinal muscular atrophy . Clinical features, diagnosis, and modern treatment approaches.
106. Parkinson's disease and parkinsonism syndrome. Etiology, pathogenesis, clinical features, and diagnosis.
107. Parkinson's disease, conservative (principles of administration and groups of drugs) and surgical treatment.
108. Huntington's disease. Etiology, clinical features, diagnosis, treatment.
109. Creutzfeldt -Jakob disease . Etiology, pathogenesis, clinical features, diagnosis, and treatment.
110. Alzheimer's disease, Pick's disease. Etiology, pathogenesis, clinical features, diagnosis, and treatment.
111. Hepatocerebral degeneration (Konovalov-Wilson disease). Etiology, pathogenesis, clinical features, diagnosis, and treatment.
112. Hereditary spastic paraplegia ( Strumpell's disease ). Etiology, pathogenesis, clinical features, diagnosis, and treatment.
113. Spinocerebellar ataxia, clinical features, diagnostics, treatment.
114. Myasthenia gravis. Etiology, pathogenesis, classification, clinical manifestations, diagnosis, differential diagnosis.
115. Myasthenia gravis. Treatment principles. Myasthenic and cholinergic crises, clinical features, emergency care.
116. Tumors of the chiasmatic-sellar region. Clinical features, diagnosis, treatment .
117. Subtentorial tumors. Clinical presentation, diagnosis, and treatment.
118. Characteristics of brain tumors localized in the frontal lobe, clinical picture, diagnosis, treatment.
119. Characteristics of brain tumors localized in the temporal lobe, clinical picture, diagnosis, treatment.
120. Characteristics of brain tumors localized in the occipital lobe, clinical picture, diagnosis, treatment.

121. Characteristics of brain tumors localized in the parietal lobe, clinical picture, diagnosis, treatment.
122. Extramedullary spinal cord tumors. Classification, clinical features, diagnosis, and current treatment methods.
123. Intramedullary spinal cord tumors. Classification, clinical features, diagnosis, and current treatment methods.
124. Neurocysticercosis. Etiology, clinical presentation, diagnosis, and treatment. Bruns syndrome.
125. Neurotoxoplasmosis . Etiology, clinical features, diagnosis, treatment.
126. Brain abscesses. Etiology, pathogenesis, clinical features, and diagnosis. Surgical treatment methods.
127. Classification of traumatic brain injury. Emergency care and transportation of the patients.
128. Mild traumatic brain injury: concussion and mild brain contusion. Clinical presentation, diagnosis, and treatment.
129. Moderate brain contusion. Clinical presentation, diagnosis, and treatment.
130. Severe traumatic brain injury. Clinical presentation, diagnosis, and treatment.
131. Intracranial traumatic hemorrhages. Clinical presentation, diagnosis, and surgical treatment methods.
132. Spinal cord contusion, hematomyelia. Clinical presentation, diagnosis, emergency care, and transportation of patients.
133. Migraine. Pathogenesis, classification, clinical features, diagnosis, treatment, prevention.
134. Tension-type headache. Etiology, pathogenesis, clinical features, diagnosis, differential diagnosis, treatment, and prevention.
135. Cluster headache. Etiology, pathogenesis, clinical features, diagnosis, differential diagnosis, treatment, and prevention.
136. Trigeminal neuralgia. Etiology, pathogenesis, clinical features, diagnosis, differential diagnosis, and treatment.
137. Classification of neurological manifestations of spinal osteochondrosis. Disease stages (reflex, radicular, compression-ischemic), pathogenesis, and clinical features.
138. Reflex syndromes of neurological manifestations of osteochondrosis of the spine at the cervical , thoracic and lumbosacral levels, clinical picture, diagnosis, treatment.
139. Radiculopathies C5–C6, C7–C8, L2–L4, L5–S1. Clinical presentation, diagnostics, treatment.
140. Cervical myelopathy: etiology, clinical features, diagnostics, treatment.
141. Conservative treatment of neurological manifestations of spinal osteochondrosis.
142. Surgical treatment of neurological manifestations of spinal osteochondrosis. Absolute and relative indications for surgery and its types.
143. Brachial plexopathy. Types, etiology, pathogenesis, clinical presentation, diagnosis, treatment.
144. Median nerve neuropathy. Etiology, pathogenesis, clinical picture, diagnosis, treatment.
145. Ulnar nerve neuropathy. Etiology, pathogenesis, clinical features, diagnosis, and treatment.
146. Radial nerve neuropathy. Etiology, pathogenesis, clinical features, diagnosis, and treatment.
147. Femoral nerve neuropathy. Etiology, pathogenesis, clinical features, diagnosis, and treatment.
148. Peroneal nerve neuropathy. Etiology, pathogenesis, clinic, diagnosis, treatment.
149. Tibial nerve neuropathy. Etiology, pathogenesis, clinical features, diagnosis, and treatment.
150. Ultrasound diagnostics in neurology and neurosurgery: ultrasound examination of the brachiocephalic arteries and nerve trunks. Transcranial Doppler sonography. Echoencephalography.
151. Neuroimaging (computed tomography, magnetic resonance imaging, positron emission tomography, selective subtraction angiography). Their importance in the diagnosis of neurological, neurosurgical diseases, and injuries.
152. Neurophysiological research methods (electroencephalography, electroneuromyography , evoked potentials). Diagnostic significance, indications for use.

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