

Topics and study materials for the 4th credit test

General medicine

2024/2025

Nervous system, endocrinology and diabetes mellitus, gastrointestinal tract, liver, and pancreas

1. Nervous system

- a) Motor disorders, classification, terminology, symptomatology, lower and upper motor neuron sy., extrapyramidal disorders – hypertonic (Parkinson dis.), hyperkinetic (classification, Huntington dis.), cerebellar disorders
- b) Neuromuscular disorders, Myasthenia gravis
- c) Musculopathies, classification, Duchenne and Becker sy.
- d) Somatosensitive disorders, classification, terminology, symptomatology, pain
- e) Spinal cord injury, classification, terminology, symptomatology; spinal shock; dissociation sy., Brown-Séquard sy.
- f) Neurodegenerative diseases, classification, terminology, genetic basis, inclusions diseases (taupaties, amyloidosis, Lewy bodies)
- g) Dementia, classification, causes, Alzheimer disease
- h) Demyelinating diseases, classification, etiopathogenesis, Multiple sclerosis
- i) Epilepsy, classification, causes, symptomatology
- j) Vegetative dysfunction, classification, terminology, symptomatology
- k) Intracranial pressure and herniation sy., bleeding
- l) Cerebrovascular stroke, ischemic, hemorrhagic
- m) Sleep disorders, classification, dyssomnias, parasomnias
- n) Disorders of higher nervous system, memory disorders, intellectual developmental disorders, dyspraxia, agnosia, aphasia

Study materials

- Unit 10 Nervous System; Ch 34 Organization and Control of Neural Function, p. 821 – 853; Ch 35 Somatosensory Function, Pain, and Headache, p. 854 – 879; Ch 36 Disorders of Neuromuscular Function, p. 880 – 915; Ch 37 Disorders of Brain Function, p. 916 – 954 In: Porth, C.M. (Ed.) Essentials of pathophysiology, 4rd Edition, Wolters Kluwer/Lippincott Williams & Wilkins, 2011, ISBN-13: 978-1-4511-9080-9.
- Unit V, Ch 15 Structure and Function of the Neurologic System, p. 447 – 1128; Ch 16 Pain, Temperature regulation, Sleep and sensory Function, p. 484 – 506, Ch 17 Alterations in Cognitive System, Cerebral Hemodynamics, and Motor Function, p. 527 – 580, Ch 18 Disorders of the Central and Peripheral nervous Systems and the Neuromuscular Junction, p. 581 – 626, Ch 20 Alterations of Neurologic Function in Children; Epilepsy, p. 678 – 681. In: McCance, K.L., Huether, S.E. (Ed.) Pathophysiology, 7th Edition, Mosby, Elsevier Inc., 2014, ISBN: 978-0-323-08854-1.
- Recommended: lectures, tutorials, data on dept. web; Other reading: pract. seminars, internet resources (Wikipedia, etc.).

2. Endocrinology and diabetes mellitus

- a) General endocrinology, classification, etiology
- b) Hypothalamic-pituitary syndromes; hypo-, hyperpituitarisms – causes, symptoms; posterior, anterior pituitary syndromes
- c) Thyroid disorders; hypo-, hyperthyroidism – etiopathogenesis, forms, symptoms, goiter
- d) Adrenal cortex disorders; adrenocortical hypofunction – Addison's disease – etiopathogenesis, symptoms; hypercortisolism – Cushing's disease and syndrome - etiopathogenesis, symptoms; hyperaldosteronism – Conn's sy. - etiopathogenesis, symptoms; congenital adrenal hyperplasia

- e) Disorders of adrenal medulla
- f) Parathyroid gland disorders; hypo-, hyperparathyroidism - classification, etiopathogenesis, symptoms; hormonal regulation of calcium homeostasis – incl. calcitonin, calcitriol
- g) Diabetes mellitus (DM), definition, classification, symptoms, diagnosis
 - Type 1 DM – etiopathogenesis, genetic background, epidemiology, symptoms, LADA
 - Type 2 DM – etiopathogenesis, genetic background, epidemiology, symptoms, insulin resistance
 - Other types of DM – MODY
 - Gestational DM
 - Acute complications of DM – hypo- and hyperglycemic
 - Chronic complications of DM – micro- and macrovascular

Study materials

- Unit 9 Endocrine system; Ch31 Mechanisms of Endocrine Control, p. 753 – 766; Ch32 Disorders of Endocrine Control of Growth and Metabolism, p. 767 – 792; Ch33 Diabetes Mellitus and the Metabolic Syndrome, p. 793 – 820 In: Porth, C.M. (Ed.) Essentials of pathophysiology, 4rd Edition, Wolters Kluwer/Lippincot Williams & Wilkins, 2011, ISBN-13: 978-1-4511-9080-9.
- Unit VI Ch21 Mechanisms of Hormonal Regulation, p. 689 – 716; Ch22 Alterations of Hormonal Regulation, p. 717 – 767 In: McCance, K.L., Huether, S.E. (Ed.) Pathophysiology, 7th Edition, Mosby, Elsevier Inc., 2014, ISBN: 978-0-323-08854-1.
- Recommended: lectures, tutorials, data on dept. web; Other reading: pract. seminars, internet resources (Wikipedia, etc.).

3. Gastrointestinal tract, liver, pancreas, gall bladder

- a) Disorders of oral cavity, pharynx, and esophagus; caries, periodontitis, manifestation of systemic diseases in oral cavity; dysphagia, gastroesophageal reflux disease
- b) Peptic ulcer, classification, etiology, symptoms, complication; gastric vs. duodenal ulcer
- c) Inflammatory bowel diseases, classification, etiopathogenesis, symptoms; Crohn's disease, ulcerative colitis
- d) Intestinal motility disorders, classification, etiopathogenesis, symptoms; diarrhea, constipation, irritable bowel syndrome
- e) Malabsorption and maldigestion, classification, etiopathogenesis, symptoms; specific disorders of nutrient absorption and digestion; Celiac disease
- f) Exocrine pancreas disorders; acute and chronic pancreatitis, pancreatic insufficiency
- g) Liver disorders; hyperbilirubinemia, jaundice – classification, etiology, clinical signs; acute and chronic viral hepatitis; hepatic insufficiency - classification, etiology, clinical signs, hepatic encephalopathy, and coma. liver cirrhosis, ascites, portal hypertension
- h) Disorders of gallbladder and bile ducts, gallstones

Study materials

- Unit 8 Gastrointestinal and Hepatobiliary Function Ch 28 Structure and Function of the Gastrointestinal system, p. 675 – 695; Ch29 Disorders of the Gastrointestinal Function, p. 696 – 723; Ch30 Disorders of Hepatobiliary and Exocrine Pancreas Function, p. 724 – 752 In: Porth, C.M. (Ed.) Essentials of pathophysiology, 4rd Edition, Wolters Kluwer/Lippincot Williams & Wilkins, 2011, ISBN-13: 978-1-4511-9080-9.
- Unit XII, Ch40 Structure and Function of the Digestive System, p. 1393 – 1422; Ch41 Alterations of Digestive Function, p. 1423 – 1485 In: McCance, K.L., Huether, S.E. (Ed.) Pathophysiology, 7th Edition, Mosby, Elsevier Inc., 2014, ISBN: 978-0-323-08854-1.
- Recommended: lectures, tutorials, data on dept. web; Other reading: pract. seminars, internet resources (Wikipedia, etc.).

Composition of the test

Multiple choice (40). Approximate composition:

1. Nervous system

- a) Motor disorders, extrapyramidal, cerebellar disorders
- b) Neuromuscular disorders, musculopathies
- c) Somatosensitive disorders, pain
- d) Spinal cord injury, spinal shock, Brown-Séquard sy.
- e) Neurodegenerative diseases
- f) Dementia, classification, Alzheimer disease
- g) Demyelinating diseases, Multiple sclerosis
- h) Epilepsy
- i) Vegetative dysfunction
- j) Intracranial pressure and herniation sy., bleeding
- k) Cerebrovascular stroke, ischemic, hemorrhagic
- l) Sleep disorders, disorders of higher nervous system

2. Endocrinology and diabetes mellitus

- a) General endocrinology, classification, etiology
- b) Hypothalamic-pituitary syndromes
- c) Thyroid disorders
- d) Adrenal cortex disorders; Addison's disease, Cushing's disease and syndrome, Conn's sy., congenital adrenal hyperplasia
- e) Disorders of adrenal medulla
- f) Parathyroid gland disorders
- g) Diabetes mellitus, type 1 DM, type 2 DM, other types of DM, gestational DM, acute and chronic complications

3. Gastrointestinal tract, liver, pancreas, gall bladder

- a) Disorders of oral cavity, pharynx and esophagus
- b) Peptic ulcer
- c) Inflammatory bowel diseases
- d) Intestinal motility disorders, diarrhea, constipation, irritable bowel syndrome
- e) Malabsorption and maldigestion
- f) Exocrine pancreas disorders
- g) Liver disorders
- h) Disorders of gallbladder and bile ducts

Open questions. Approximate composition:

- a) Motor disorders, extrapyramidal, cerebellar disorders
- b) Neuromuscular disorders, musculopathies
- c) Spinal cord injury, spinal shock, Brown-Séquard sy., dissociation syndromes
- d) Multiple sclerosis
- e) Epilepsy
- f) Stroke, intracranial pressure, and herniation sy.
- g) Neurodegenerative diseases
- h) Dementia
- i) Vegetative dysfunction
- j) Sleep disorders
- k) Disorders of higher nervous system
- l) Hypothalamic-pituitary syndromes
- m) Thyroid disorders
- n) Adrenal cortex disorders
- o) Disorders of adrenal medulla
- p) Parathyroid gland disorders

- q) Diabetes mellitus, type 1 DM, type 2 DM, other types of DM, gestational DM, acute and chronic complications
- r) Disorders of oral cavity, pharynx, and esophagus
- s) Peptic ulcer
- t) Inflammatory bowel diseases
- u) Intestinal motility disorders, diarrhea, constipation, irritable bowel syndrome
- v) Malabsorption and maldigestion
- w) Exocrine pancreas disorders
- x) Liver disorders
- y) Disorders of gallbladder and bile ducts

In the multiple choice test each question consists of 5 independent choices (a-e) to which students answer by Y or N (Yes/No). Every one choice is awarded by 1 point. Altogether it is possible to achieve 200 points in the multiple-choice part of the test.

Each open question is credited with certain maxima of points, which can differ in various questions according to importance, content, and difficulty.

Test rating grade - %

A - 100 - 93

B - 92 - 85

C - 84 - 77

D - 76 - 69

E - 68 - 60

Fx - 59 and less

24 April 2025

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