

Questions for the exam

1. Subject of physiology and classification of physiological disciplines.
2. Relation of physiology with other sciences.
3. Value of a normal physiology course for medicine.
4. Notion of excitability.
5. Excitability indicators.
6. Law of the power relations.
7. Law "everything or nothing".
8. Membrane potential, its origin and properties
9. Action potential, its origin and properties
10. Local respond and its characteristic
11. Curve of excitability and origin of its phases
12. Effect of a direct current on tissue
13. Concept about a motor and neuromotor unit.
14. Physiological properties of muscles.
15. Irritation of muscles and ways of registration.
16. Single muscular contraction.
17. Change muscle fiber excitability at its reduction.
18. Summation and tetanus. Optimum and pessimum of muscular contraction.
19. Modern theory of muscular contraction and relaxation.
20. Force and muscle work.
21. Exhaustion of the isolated muscle and exhaustion in the whole organism.
22. Adaptation and trophic influence of sympathetic nervous system on skeletal muscles.
23. Heat generation at excitement and contraction of muscles.
24. Physiological features of smooth muscles.
25. Differences of the smooth muscle from the skeletal muscle.
26. Classification of nervous fibers.
27. Distribution of excitement on myelin and non-myelin nervous fibers.
28. Laws of excitement conduction on nervous fibers.
29. Synapse. Structure, classification. Excitement transfer mechanism.
30. Concept of the central nervous system. Definition of a reflex.
31. Structure of a reflex arch.
32. The neuron is a structurally functional unit of CNS'.
33. Features of excitement emergence in neuron.
34. Mechanisms of excitement emergence in receptors.
35. Definition and types of inhibition in CNS'.
36. Postsynaptic inhibition.
37. Presynaptic inhibition.
38. Sechenov Central inhibition.
39. Simple inhibition chains.
40. Spinal cord. Conduction and reflex functions.
41. Functions of ventral and dorsal roots of a spinal cord.

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42. Segmental and intersegmental principle of a spinal cord.
43. Spinal shock.
44. Medulla. Bulbar animal.
45. Conduction function of a medulla oblongata.
46. Reflex function of a medulla oblongata.
47. Tonic reflexes of the brainstem.
48. Reticular formation of the brainstem.
49. Midbrain. Conduction function of midbrain.
50. Reflex activity of midbrain.
51. Cerebellum and its function.
52. Hypothalamus. Hypothalamus participation in the regulation of autonomic functions.
53. Thalamus. Functional characteristics of major nuclear groups.
54. Comparative characteristics of the sympathetic and parasympathetic divisions of the autonomic nervous system. The synergy and antagonism of their relative influence.
55. Definition of the analyzer according to I.P. Pavlov. Functions of the analyzer.
56. Visual analyzer
- a) Receptor apparatus. Photochemical processes in a retina
- b) Conduction part of the visual analyzer
- c) Cortical representation of the visual analyzer
- d) Accommodation. Visual field. Visual acuity
57. Acoustic analyzer. Structure. Functions.
58. Vestibular analyzer. Structure. Functions.
59. Somatosensory analyzer
60. Taste analyzer
61. Olfactory analyzer
62. Concept of reflex. Classification of reflexes.
63. Rules of development of conditioned reflexes.
64. The scheme and mechanisms of short circuit of temporary communications at development of conditioned reflexes
65. Types of higher nervous activity. The doctrine about the first and second alarm systems.
66. Inhibition in HNA.
67. Concept of dominant (A.A. Ukhomsky).
68. Memory. Types and mechanisms of memory.
69. Emotions. Emotional tension.
70. Sleep. Sleep phases.
71. Dynamic stereotype.
72. Excitability of a cardiac muscle
73. Contractility of a cardiac muscle
74. Conductivity of a cardiac muscle
75. Automaticity
76. Self-regulation of heart work
77. Nervous regulation of heart work
78. Heart reflexes.
79. Humoral influences on heart work
80. The cardiac cycle
81. Tones of heart. Phonocardiography.
82. Electrocardiography.
83. Physical characteristics of the blood circulatory system:

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2)	The laws of hemodynamics.	84.
1)	Pressure in the various portions of the circulation.	85.
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b) Nervous control;	
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