## Plan practical unit for students of the 3 year of the medical faculty for the 2017-2018 academic year

<table>
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<tr>
<th>№ unit</th>
<th>№ themes</th>
<th>The name of the theme</th>
<th>Questions</th>
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<td>5 semester</td>
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<tr>
<td>1.</td>
<td>1</td>
<td>Introduction. Pathological physiology as a medical discipline.</td>
<td>1. The Pathological physiology: determination, problems, purposes, structure of pathophysiology. 2. Main history stages of the science development. 3. Methods of pathophysiology, types of diseases and pathological process modeling. 4. The role to pathological physiology in system of the education.</td>
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<td>2.</td>
<td>1</td>
<td>General nosology. General etiology. General pathogenesis. The role of the damaging environmental factors in the genesis of the disease. Effect of changes in atmospheric pressure.</td>
<td>1. The concept of &quot;general nosology&quot;, &quot;general etiology,&quot; &quot;general pathogenesis.&quot; 2. The definition of &quot;disease.&quot; Stage and outcome of the disease. 3. The role of the damaging environmental factors in the genesis of the disease. 4. Effect of changes in atmospheric pressure on the body.</td>
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<td>3.</td>
<td>1</td>
<td>General etiology. General pathogenesis. The damaging effect on the body of the electric current and mechanical factors.</td>
<td>1. The role of the causes and conditions in the event of diseases. 2. Causes, conditions, mechanisms and outcomes of electrocution. 3. Role of mechanical environmental factors in causing disease and pathological processes. 4. Traumatic shock. Etiology, pathogenesis, stage effects.</td>
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<td>5.</td>
<td>2</td>
<td>Cell damage as a general principle of development of the disease.</td>
<td>1. The levels of damage in diseases. 2. The causes cell damage. Exogenous and endogenous factors. 3. Specific mechanisms of cell damage. 4. Non-specific mechanisms of cell damage. 5. Manifestations of cell damage, effects. Types of cell death.</td>
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<td>6.</td>
<td>3</td>
<td>The reactivity of the organism. Its role in the disease</td>
<td>1. The definition of &quot;reactivity&quot;. 2. Types of reactivity. 3. Factors individual reactivity. 4. The concepts of the mechanisms of individual-reactivity. 5. Role reactivity in the disease.</td>
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<td>8.</td>
<td>4</td>
<td>Typical disorders of water-salt metabolism.</td>
<td>1. Types of disorders of water-salt metabolism (dyskinesia). 2. Hypohydration. Types, causes, mechanisms of development, effects. 3. Hyperhydration. Types, causes, mechanisms of development, effects. 4. &quot;Oedema&quot;. The definition, types, causes, mechanisms of development. The role of Starling in understanding the mechanisms of edema. 5. Classification of edema in pathogenesis.</td>
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<td>9.</td>
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<td>Final lesson.</td>
<td>Final lesson on general nosology and on some questions typical pathological processes.</td>
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| 12. | 6 | Inflammation. | 1. Acute phase response, determining features mediators, meaning.  
2. Fever as part of the acute phase response.  
3. Etiology, pathogenesis, stage biological significance.  
4. The similarities and differences of fever and overheating. |
| 13. | 6 | Inflammation. Local and general inflammation. The biological significance. Acute inflammation. Chronic inflammation. | 1. Local clinical signs of acute inflammation, the mechanism of their development.  
2. General changes in the body in acute inflammation.  
3. The biological significance of acute inflammation.  
4. The concept of "chronic inflammation", types, etiology and pathogenesis. The difference between acute from chronic inflammation. The consequence of chronic inflammation. |
2. Causes, mechanisms of acute inflammation.  
3. Stage outcomes, principles of treatment of acute inflammation. |
| 15. | 8 | Neoplastic process. | 1. Neoplastic process, the definition.  
2. The etiology of the tumor process, the types of carcinogens.  
5. Antineoplastic resistance of the body, types, mechanisms. |
| 16. | 9 | Extreme states. | 1. The concept of "extreme conditions".  
2. Types of extreme conditions. Shock, collapse, coma. Causes, mechanisms of development, effects. |
| 17. | 10 | Typical disturbance of immunological reactivity. Allergy. | 1. Allergy definition.  
2. Classification of etiology and pathogenesis.  
3. 4 types of allergic reactions on the classification of Gell, Coombs. Causes, mechanisms of development in stages. Manifestations, consequences. |
| 18. |  | Final lesson. | Final lesson on general typical pathological processes. |
| 19. | 11 | Typical disturbance of immunobiological control (IBC). | 1. Types of disturbance IBC.  
2. Immunological status. Type.  
3. Primary immunodeficiencies. Hereditary and congenital.  
3. The etiology and pathogenesis of different types of hypoxia, effects. |
2. Types of RF on the etiology and pathogenesis.  
3. Obstructive, restrictive and mixed type of ventilation of lungs. The criteria.  
4. Diffusion form RF. Causes, mechanisms, manifestations, criteria.  
5. Ventilation-perfusion form of RF. Causes, mechanisms, manifestations, criteria.  
6. Centrogenic RF. Pathological forms of breathing. |
3. The etiology and pathogenesis of immune nephropathy.  
4. Renal and extrarenal symptoms and syndromes in nephropathy. |
| 23. | 14 | Typical disorders of the blood system. The general concept of anemia. | 1. Definition of "anemia".  
2. Methods of study of anemia.  
2. The pathogenesis of acute hemorrhagic anemia, depending on the stage of compensation in acute blood loss. Blood picture in stages.  
3. Chronic blood loss. The etiology and pathogenesis.  
2. Types of leukocytosis on the etiology and pathogenesis. |
| 26. | 14 | Typical disorders of the blood system. Leukemia. | 1. Definition of the term "leukemia."  
2. Classification of leukemia by morphogenetic principle, clinical evolution, the number of leukocytes in peripheral blood.  
3. The main differences in the blood picture of acute and chronic leukemia.  
4. Leukemia and leukemoid reaction.  
| 27. |  | Final lesson. | Final lesson on typical pathological processes organs and system. |
| 28. | 15 | Typical disorders of the cardiovascular system. Heart failure. | 1. Definition of the term "heart failure".  
2. Types of etiology, to clinical evolution, to phases and the part heart.  
3. The etiology and pathogenesis acute and chronic heart failure. |
3. Hypotension, definition. Type. Primary and secondary arterial hypotension. |
| 30. | 15 | Typical disorder of the cardiovascular system. Cardiac arrhythmias. | 1. Cardiac arrhythmias, definition. Type on the etiology and pathogenesis. Classification.  
2. Etiology, pathogenesis, ECG signs of certain types of cardiac arrhythmias. |
2. Disorder of the secretory and motor function of gastric minute. The etiology and pathogenesis.  
3. Peptic ulcer and 12 duodenal ulcer. Etiology, pathogenesis, the modern concept of the cause and development.  
| 32. | 17 | Typical liver dysfunction. Jaundice. | 1. Liver failure, definition. Classification in pathogenesis.  
| 33. | 18 | Typical effects on the endocrine system. | 1. The causes and the basic structure damage in the pathogenesis of endocrine disorders.  
2. Role disorders feedback mechanisms in the development of endocrine disorders.  
3. The etiology and pathogenesis of separate syndromes in diseases of the endocrine system.  
4. Hypo- and hyperfunctional disorder of adrenal, pituitary and thyroid glands. |
| 34. | 19 | Typical disorders of the nervous system. | 1. General etiology and characteristics of damage to the nervous system (the role of the blood-brain barrier, the second signal trace reaction system, etc.).  
2. Basic model pathological processes of the nervous system. Generator of pathologically enhanced excitation, inhibition deficit, Denervation syndrome, nerve dystrophy, pathological system, spinal shock, etc.  
| 35. |  | Final lesson | Final lesson on typical pathological processes organs and system. |
| 36. |  | Practical skills | Practical skills |

Chairman of Pathophysiology  
Department, Professor E.V. Shechetinin