PATHOLOGY FINAL EXAMINATION TOPICS

GENERAL PATHOLOGY

1. General mechanisms of cell damage
2. Cell death
3. Adaptation mechanisms of tissues and organs – definitions, examples
4. Hyperplasia and hypertrophy
5. Atrophy
6. Metaplasia
7. Thrombosis
8. Embolism
9. Hyperemia and haemorrhage
10. Ischemia
11. Infarction
12. Disorders of liquid metabolism: edema and dehydration
13. Causes of circulatory failure
14. Cardiac manifestations of circulatory failure
15. Extra-cardiac (systemic) manifestations of circulatory failure
16. Shock
17. Pathogenesis of human diseases on the level of organelles (endoplasmic reticulum, Golgi complex, lysosomal system, mitochondria, peroxisomes)
18. Intracellular accumulation of lipids – steatosis, lipidoses
19. Intracellular accumulation of proteins
20. Disorders of carbohydrate metabolism (glycogenoses, diabetes mellitus)
21. Disorders of extracellular matrix composition
22. Pathologic calcification
23. Amyloidosis
24. Endogenous pigments
25. Exogenous pigments
26. Crystals and concretions
27. Definition of inflammation, causes of inflammation
28. Pathogenesis/phases of inflammation
29. Main microscopic signs of inflammation
30. Macroscopic signs of inflammation, systemic manifestation of inflammatory reaction
31. Types of exudative non-specific inflammation
32. Development of acute inflammation
33. Chronic inflammation
34. Superficial and interstitial inflammations and their healing
35. Specific (granulomatous) inflammation
36. Tuberculosis – types and manifestations
37. Primary tuberculosis
38. Post-primary tuberculosis
39. Sarcoidosis

40. Syphilis
41. Granulomatous-suppurative inflammation, leprosy and infectious scleroma
42. Regeneration and reparation
43. Healing of wounds
44. Healing of thrombi, hematomas, necroses and fractures
45. Mechanisms of tissue damage caused by immunological processes
46. Pathology of transplantation
47. Autoimmune diseases
48. Immunodeficiencies
49. Genetic causes of diseases
50. Nutritional causes of pathological states
51. Chemical causes of pathological states
52. Physical causes of pathological states
53. Transmission, entry and spread of infection in an organism
54. Mechanisms of damage to the organism caused by viral and bacterial infections
55. Developmental causes of diseases – malformations
56. Definitions and classification of tumors
57. Characteristics and clinical signs of benign, borderline and malignant tumors
58. Local growth attributes of tumors. Spread of malignant tumors.
59. Typing, grading and staging of tumors
60. Causes of tumor development
61. Molecular basis of tumor development
62. Congenital and acquired predispositions towards tumor development. Precanceroses
63. Pseudotumors
64. Epithelial tumors
65. Mesenchymal tumors
66. Tumors of hematopoietic and lymphatic tissues
67. Neuroectodermal tumors
68. Germ cell tumors
69. Mixed tumors

PATHOLOGY OF ORGAN SYSTEMS

CIRCULATORY SYSTEM PATHOLOGY

70. Systemic and pulmonary hypertension
71. Degenerative and inflammatory diseases of the arteries
72. Diseases of veins and lymphatic vessels
73. Congenital heart malformations
74. Diseases of heart valves
75. Ischemic heart disease
76. Diseases of myocardium and pericardium
77. Tumors of the heart and vessels

HEMATOPATHOLOGY

78. Anemias, bone marrow supression
79. Myeloproliferative neoplasias and myelodysplastic syndromes
80. Acute and chronic leukemias
81. Bleeding disorders
82. Lymphadenopathies
83. General characteristics of lymphoid cell tumors
84. Non-Hodgkin lymphomas
85. Hodgkin lymphomas, plasmocytic tumors
86. Non-neoplastic diseases and tumors of the spleen

PATHOLOGY OF THE RESPIRATORY SYSTEM, PLEURA AND MEDIASTINUM

87. Non-neoplastic diseases and tumors of the nose, paranasal sinuses, and pharynx
88. Inflammations and tumors of the larynx, trachea, and middle ear
89. Changes of the airiness of lung parenchyma (atelectasis, collapse, emphysema)
90. Disorders of pulmonary circulation, pulmonary embolism
91. Pulmonary edema and diffuse alveolar damage
92. Chronic obstructive pulmonary diseases, chronic bronchitis
93. Chronic interstitial (restrictive) pulmonary disorders, pneumoconioses
94. Granulomatous inflammations of the lungs
95. Infectious inflammations of the lungs (bacterial, viral, fungal)
96. Tumors of the bronchi and lungs
97. Pathological content of pleural cavity, inflammations and tumors of pleura
98. Pathology of the mediastinum

PATHOLOGY OF THE GIT AND PERITONEUM

99. Non-neoplastic diseases of the esophagus

100. Tumors of the esophagus
101. Gastritides and gastropathy
102. Gastroduodenal ulcer disease
103. Tumors of the stomach
104. Vascular disorders, changes in the position and lumen of the intestine, ileus
105. Infectious inflammations of the intestine
106. Non-infectious inflammations of the intestine, malabsorption syndrome
107. Appendicitis
108. Intestinal polyps and polyposes, tumors of the intestine
109. Pathological content of peritoneal cavity, inflammations and tumors of the peritoneum

PATHOLOGY OF THE LIVER, BILIARY TREE AND PANCREAS

110. Icterus, cholestasis, and liver failure
111. Main mechanisms of liver damage (accumulation of substances, necrosis, apoptosis, icterus…)
112. Liver cirrhosis, circulatory liver disorders
113. Hepatitides
114. Tumors and pseudotumors of the liver
115. Non-neoplastic disorders and tumors of the gallbladder and extrahepatic biliary tree
116. Non-neoplastic disorders and tumors of the pancreas

NEPHROPATHOLOGY AND UROPATHOLOGY

117. Glomerulopathies
118. Vascular disorders of the kidneys, diabethic nephropathy
119. Diseases of renal tubules and interstitium
120. Malformations of the urogenital system
121. Tumors of the kidneys
122. Non-neoplastic diseases and tumors of the lower urinary tract
123. Non-neoplastic diseases and tumors of the penis
124. Non-neoplastic diseases and tumors of the testicles
125. Non-neoplastic diseases and tumors of the prostate

GYNECOPATHOLOGY, PATHOLOGY OF THE PREGNANCY, BREAST PATHOLOGY

126. Non-neoplastic diseases and tumors of the vulva and vagina
127. Non-neoplastic diseases and tumors of the uterine cervix
128. Non-neoplastic diseases of the uterine body
129. Precanceroses and tumors of the uterine body
130. Diseases of the fallopian tubes, extrauterine pregnancy
131. Cysts and tumors of the ovary
132. Diseases of the placenta, umbilical cord, and fetal membranes (abnormalities of the placenta and umbilical cord, inflammations)
133. Pathology of the pregnancy ((pre)eclampsia, acute complications of the pregnancy and labour affecting the mother)

134. Non-neoplastic diseases of the breast
135. Tumors of the breast

PATHOLOGY OF THE CENTRAL NERVOUS SYSTEM AND NEUROMUSCULAR PATHOLOGY

136. Traumatic injuries to the CNS, brain edema, intracranial hypertension
137. Cerebrovascular disorders (vascular malformations, ischemia, hemorrhage)
138. Neuroinfections, prionoses
139. Demyelinating and neurodegenerative disorders
140. Tumors of the CNS
141. Peripheral neuropathy, disorders of the neuromuscular junction, myopathies

PATHOLOGY OF THE BONES AND JOINTS

142. Malformations of bones
143. Osteoporosis, bone fractures and their healing, osteonecrosis
144. Metabolic diseases of the bones, renal osteodystrophy
145. Inflammations of the bones
146. Pseudotumors, cysts and tumors of the bones
147. Non-neoplastic diseases and tumors of the joints

PATOLOGIE ENDOKRINNÍHO SYSTÉMU

148. Non-neoplastic diseases and tumors of the pituitary gland, pituitary syndromes
149. Disorders of the function an tumors of the adrenal glands
150. Non-neoplastic diseases and tumors of the thyroid gland, thyroid syndromes
151. Diseases of the parathyroid glands

DIABETES MELLITUS

152. Diabetes mellitus

PATHOLOGY OF THE SKIN

153. Non-infectious dermatitides
154. Infectious dermatitides and inflammatory diseases of the dermis and hypodermis
155. Tumors and pseudotumors of the epidermis
156. Melanocytic lesions

PEDIATRIC PATHOLOGY

157. Immaturity and prenatal pathology of the newborn
158. Perinatal disorders of the newborn and disorders of postnatal adaptation

PATHOLOGY OF SYSTEMIC INFECTIONS

159. Infections caused by herpetic viruses, viral exanthemas
160. Infections caused by gram-positive bacteria
161. Infections caused by gram-negative bacteria

162. Mycoses

163. Protozoal infections (toxoplasmosis, malaria, amoebic diseases, giardiasis, trichomoniasis, leischmaniosis, trypanozomiasis) and helmintoses (nematodoses, infections caused by trematodes and taenias)

OROFACIAL PATHOLOGY

1. Necrosis, atrophy, metabolic changes, and pigmentations of the oral cavity
2. Acute inflammatory diseases of the oral cavity (review, classification)
3. Infectious vesiculous orofacial inflammatory diseases
4. Recurrent aphtous stomatitis
5. Purulent inflammatory orofacial diseases
6. Orofacial findings in acute systemic infections
7. Chronic inflammatory diseases of oral cavity
8. Orofacial syphilis
9. Orofacial tuberculosis
10. Orofacial granulomas without specific infectious etiology (foreign body granuloma, granulomatous cheilitis, granulomatosis with polyangiitis, Crohn's disease)
11. Chronic lesions with granuloma-like macroscopy (periapical granuloma, pyogenic granuloma, granuloma fissuratum, eosinophilic granuloma)
12. Orofacial candidiasis
13. Non-infectious (immune-mediated) orofacial inflammatory diseases
14. Gingivitides
15. Pathological changes of the tongue
16. Fibrous hyperplasias and fibromatoses of the oral cavity
17. Epulides
18. Oral soft tissue tumors and pseudotumors
19. Orofacial epithelial pseudotumors and benign tumors
20. Orofacial precanceroses and malignant epithelial tumors
21. Tumors and pseudotumors of jaws
22. Developmental disorders of teeth
23. Abrasion, erosion, resorption of tooth tissues
24. Dental caries
25. Pulpitis and periapical periodontitis
26. Chronic periodontal diseases
27. Odontogenic cysts
28. Non-odontogenic cysts of the oral cavity
29. Epithelial odontogenic tumors
30. Mesenchymal and mixed odontogenic tumors
31. Non-neoplastic diseases of salivary glands
32. Tumors of salivary glands
33. Cysts of the neck