

EXAMINATION TOPICS FOR STUDENTS OF GENERAL MEDICINE - GENERAL PATHOLOGY

1. Cell injury – causes, sequence of events
2. Cell death - sequence of events, mechanisms, types of cell death
3. Cellular adaptation to stress - definitions, examples
4. Hypertrophy and hyperplasia
5. Atrophy
6. Metaplasia
7. Intracellular accumulations – definition, overview
8. Intracellular accumulation of lipids – steatosis, lipidoses (mechanisms, examples)
9. Intracellular accumulation of proteins (examples)
10. Amyloidosis
11. Mucopolysaccharidoses. Cystic fibrosis
12. Disorders of carbohydrate metabolism (diabetes mellitus, glycogenoses)
13. Pigments - exogenous, including pneumoconioses
14. Pigments - endogenous
15. Pathologic calcification
16. Crystals and concrements (lithiasis)
17. Heart failure – cardiac findings
18. Heart failure – left-sided versus right-sided failure
19. Hyperemia, congestion and hemorrhage
20. Edema
21. Hemostasis and thrombosis
22. Ischemia
23. Embolism
24. Infarction
25. Shock
26. Overview of inflammation – definitions, general features and causes
27. Acute inflammation – overview and summary, sequence of events
28. Morphologic patterns of acute inflammation
29. Outcomes of acute inflammation
30. Chronic inflammation (causes, cells and mediators). Morphologic features of chronic inflammation
31. Granulomatous inflammation
32. Systemic effects of inflammation
33. Local signs of inflammation
34. Overview of tissue repair
35. Cell and tissue regeneration, repair by scarring
36. Healing of skin wounds (first and second intention), abnormalities in wound healing and scarring
37. Tuberculosis – overview, pathogenesis, clinical features
38. Primary tuberculosis
39. Secondary tuberculosis
40. Sarcoidosis. Leprosy
41. Syphilis
42. Immunologically mediated tissue injury – hypersensitivity reactions
43. Autoimmune diseases (mechanisms, general features, examples of localized and systemic diseases), rejection of transplants
44. Immunodeficiency syndromes

45. Genetic causes of diseases
46. Chemical, physical, and nutritional causes of diseases
47. Spectrum of inflammatory responses to infection
48. Mechanisms of viral and bacterial injury
49. Neoplasia – definitions, nomenclature, classification
50. Differentiation of tumor cells, anaplasia, dysplasia
51. Characteristics of benign, borderline and malignant neoplasms
52. Local invasion. Metastasis
53. Genetic and acquired conditions predisposing to cancer (precanceroses)
54. Cancer genes. Genetic lesions in cancer
55. Carcinogenic agents
56. Typing, grading and staging of tumors
57. Tumor-like conditions (pseudotumors)
58. Epithelial tumors – overview, characteristics, examples
59. Mesenchymal (soft tissue) tumors - overview, characteristics, examples
60. Hematopoietic and lymphoid tissue tumors - overview, characteristics, examples
61. Neuroectodermal tumors - overview, characteristics, examples
62. Germ cell tumors - overview, characteristics, examples
63. Mixed tumors - overview, characteristics, examples

ORGAN PATHOLOGY

BLOOD VESSELS

64. Hypertensive vascular disease, hypertension (systemic and pulmonary)
65. Arteriosclerosis, atherosclerosis
66. Aneurysms and dissections
67. Vasculitides
68. Diseases of veins and lymphatics
69. Tumors of blood vessels and lymphatic vessels

HEART

70. Congenital heart disease
71. Ischemic heart disease
72. Hypertension, heart in hypertension
73. Pathology of pulmonary circulation
74. Valvular heart disease – degenerative valve disease, rheumatic valvular disease, rheumatic fever
75. Valvular heart disease - infective endocarditis, noninfected vegetations
76. Cardiomyopathies and myocarditis
77. Pericardial disease
78. Cardiac tumors

PATHOLOGY OF THE HEMATOPOETIC AND LYMPHOID TISSUES

79. Anemias – summary, classification
80. Myeloproliferative neoplasms
81. Myelodysplastic syndromes
82. Leukemias (acute and chronic)

83. Plasma cell neoplasms and related entities
84. Histiocytic neoplasms (Langerhans cell histiocytosis) and dendritic (reticular) cell tumors
85. Bone marrow suppression, aplastic anemia
86. Bleeding disorders, DIC
87. Lymphadenopathies
88. General characteristics of lymphoid neoplasms
89. Non-Hodgkin lymphomas
90. Hodgkin lymphoma
91. Spleen pathology (splenomegaly, rupture, circulatory disorders)

RESPIRATORY SYSTEM PATHOLOGY

92. Inflammatory diseases of nose, paranasal sinuses, pharynx, larynx, and the middle ear
93. Tumors of the nose, paranasal sinuses, and pharynx
94. Tumors of larynx and trachea
95. Pulmonary diseases of vascular origin
96. Pulmonary edema
97. Pulmonary embolism
98. Acute respiratory distress syndrome (diffuse alveolar damage)
99. Atelectasis, collapse, emphysema
100. Chronic obstructive lung diseases
101. Chronic bronchitis, bronchiectasis, asthma
102. Pulmonary emphysema
103. Chronic interstitial (restrictive) lung diseases
104. Pulmonary infections – classification
105. Bacterial pneumonias – morphologic patterns
106. Pulmonary tuberculosis
107. Granulomatous inflammations of the lung
108. Tumors of the bronchi and lungs

PATHOLOGY OF THE PLEURA, MEDIASTINUM, AND THYMUS

109. Pathological content of the pleural cavity
110. Pleuritis
111. Tumors of the pleura
112. Pathology of the mediastinum and thymus

ORAL CAVITY AND GASTROINTESTINAL TRACT

113. Oral cavity inflammations, proliferative lesions of the oral cavity, odontogenic cysts
114. Diseases of teeth and supporting structures (dental caries and their complications, gingivitis, periodontitis)
115. Tumors and precancerous lesions of the oral cavity, odontogenic tumors
116. Diseases of salivary glands – nonneoplastic
117. Diseases of salivary glands - neoplasms
118. Non-neoplastic diseases of esophagus (malformations, esophageal diverticula, hiatal hernia, esophageal achalasia)
119. Non-neoplastic diseases of esophagus – inflammations, esophageal varices
120. Esophageal tumors

121. Gastropathy and acute gastritis
122. Chronic gastritis
123. Complications of chronic gastritis - peptic ulcer disease
124. Gastric polyps and tumors
125. Intestinal obstruction
126. Vascular disorders of bowel
127. Malabsorption
128. Infectious enterocolitis
129. Inflammatory bowel disease (IBD) and other non-infectious intestinal inflammations
130. Acute appendicitis
131. Inflammatory intestinal disease – sigmoid diverticula and diverticulitis
132. Colonic polyps and polyposes
133. Tumors of the intestine (epithelial, mesenchymal, lymphomas, neuroendocrine tumors)
134. Diseases of the peritoneum, hernias, prolapse

LIVER, BILE DUCTS, AND PANCREAS

135. General features of liver disease – mechanisms of injury and repair (necrosis, apoptosis, scar formation)
136. Liver failure and cirrhosis, cholestatic syndromes
137. Viral hepatitis, autoimmune hepatitis
138. Drug- and toxin-induced liver injury
139. Alcoholic and nonalcoholic fatty liver disease
140. Inherited metabolic liver diseases (hemochromatosis, Wilson disease, α_1 -antitrypsin deficiency)
141. Diseases of the intrahepatic and extrahepatic biliary tree
142. Circulatory disorders of the liver
143. Nodules and tumors of the liver
144. Non-neoplastic disorders of the gallbladder and extrahepatic biliary tree
145. Tumors of the gallbladder and extrahepatic biliary tree
146. Cystic fibrosis of the pancreas
147. Inflammations of the pancreas
148. Pancreatic neoplasms

KIDNEY AND ITS COLLECTING SYSTEM, LOWER URINARY TRACT

149. Cystic diseases of the kidney, congenital and developmental anomalies
150. Glomerular diseases – summary, mechanisms of injury, classification
151. Primary glomerular diseases – diseases associated mostly with nephrotic syndrome
152. Primary glomerular diseases – diseases associated mostly with hematuria/nephritic syndrome
153. Rapidly progressive glomerulonephritis, glomerulonephritis secondary to systemic disease (lupus nephritis, diabetic nephropathy)
154. Diabetic nephropathy
155. Renal diseases affecting tubules and interstitium
156. Renal diseases involving blood vessels – nephrosclerosis and malignant hypertension

- 157. Tumors of the kidney
- 158. Non-neoplastic diseases of the lower urinary tract (urinary outflow obstruction etc.)
- 159. Tumors of the lower urinary tract

MALE GENITAL SYSTEM

- 160. Nonneoplastic diseases of prostate, penis and testis
- 161. Tumors of the prostate and penis
- 162. Testicular neoplasms

FEMALE GENITAL SYSTEM AND BREAST

- 163. Nonneoplastic diseases of the vulva and vagina
- 164. Tumors of the vulva and vagina
- 165. Nonneoplastic diseases and premalignant lesions of the uterine cervix
- 166. Tumors of the uterine cervix
- 167. Nonneoplastic diseases of the uterine body
- 168. Tumors and precanceroses of the uterine body
- 169. Diseases of fallopian tubes, ectopic pregnancy
- 170. Ovarian cysts
- 171. Epithelial tumors of the ovary
- 172. Germ cell tumors, sex cord stromal tumors and mixed tumours of the ovary
- 173. Gestational trophoblastic disease
- 174. Diseases of pregnancy and placenta (placental abnormalities, inflammations and infections of the placenta, ectopic pregnancy, preeclampsia/eclampsia)
- 175. Clinical presentations of breast disease, nonneoplastic diseases of the breast
- 176. Tumors of the breast

CENTRAL NERVOUS SYSTEM AND PERIPHERAL NERVES

- 177. Edema, intracranial hypertension, herniation, and hydrocephalus
- 178. Cerebrovascular diseases
- 179. Congenital malformations, neurocutaneous syndromes, traumatic parenchymal injuries
- 180. Infections of the nervous system
- 181. Prion diseases, metabolic and toxic encephalopathies
- 182. Diseases of myelin
- 183. Neurodegenerative diseases
- 184. Tumors of brain, meninges, peripheral nerves
- 185. Pathology of the eye

BONES, JOINTS, AND MUSCLES

- 186. Osteopenia and osteoporosis
- 187. Fractures and their healing, osteonecrosis
- 188. Metabolic osteopathies (rickets and osteomalacia, hyperparathyroidism-related bone disorders, renal osteodystrophy)
- 189. Osteomyelitis, bone tuberculosis, Paget's disease
- 190. Bone tumors and tumorlike lesions
- 191. Nonneoplastic diseases of joints (arthritis, arthrosis)

- 192. Joint tumors and tumorlike conditions
- 193. Disorders of skeletal muscle

ENDOCRINE SYSTEM

- 194. Non-neoplastic and tumor diseases of the pituitary gland, pituitary syndromes
- 195. Adrenocortical hyperfunction and insufficiency
- 196. Neoplasms of the adrenal cortex and medulla
- 197. Nonneoplastic thyroid diseases and thyroidal syndromes
- 198. Thyroid neoplasms
- 199. Diseases of parathyroid glands

DIABETES MELLITUS

- 200. Diabetes mellitus

SKIN

- 201. Non-infectious dermatitides (acute inflammatory dermatoses, chronic inflammatory dermatoses, blistering disorders)
- 202. Infectious dermatoses and inflammatory disorders of dermis and hypodermis
- 203. Epithelial lesions and tumors of the skin
- 204. Mesenchymal tumors of the skin
- 205. Melanocytic lesions and tumors of the skin

PEDIATRIC DISEASES

- 206. Prematurity and fetal pathology prior to birth, damage during labour (perinatal infections, perinatal injuries, fetal hydrops...)
- 207. Complications of the perinatal period – respiratory distress syndrome of the newborn, bronchopulmonary dysplasia, retinopathy, necrotizing enterocolitis, newborn sepsis)
- 208. Tumors of children and adolescents

PATHOLOGY OF SYSTEMIC INFECTIONS

- 209. Infections caused by herpetic viruses, viral exanthemas
- 210. Respiratory viral and bacterial infections
- 211. Infections caused by Gram-positive bacteria
- 212. Infections caused by Gram-negative bacteria
- 213. Primarily enteropathogenic bacterial infections
- 214. Clostridial and chlamydial infections, zoonoses, diseases transmitted by insects
- 215. Mycoses
- 216. Parasitic diseases (toxoplasmosis, malaria, amoebiasis, giardiasis, trichomoniasis, leishmaniasis, trypanosomiasis, taeniasis, ascariasis)