

# STATE EXAM FROM SURGERY

## QUESTIONS FOR 6.YEAR GENERAL MEDICINE

### A. General surgery

1. Injury of tissues around joints, joint dislocation (luxatio)
2. Principles of asepsis and antisepsis – definition and history
3. Sterilization and its methods, department of central sterilization and its maintenance
4. Disinfection, the most important disinfectants
5. Local anesthesia – methods, the most commonly used local anesthetics
6. Legal and ethical aspects of organ harvesting for transplantation, kidney transplantation from living and deceased donor
7. Basic concepts and nomenclature of surgical procedures and their characteristics
8. Resuscitation in acute respiratory failure, resuscitation in acute heart failure
9. The use of antiplatelet agents and anticoagulants in surgery
10. Blood transfusion, transfusion products
11. Basic principles of drainage, puncture and evacuation; explanation of terms – incision, excision, extirpation
12. Bleeding – types of bleeding and ways of surgical hemostasis
13. Postoperative care
14. Tracheostomy and its relevance
15. Wound types and mechanisms of their development
16. Temporary wound treatment
17. Acute wound healing and healing complications
18. Definitive wound closure
19. Tetanus – prevention, prophylaxis and treatment
20. Muscle and tendon injuries
21. Nuclear weapon injuries – first aid, principles of definitive treatment
22. Surgical infections – prevention and principles of treatment
23. Phlegmona and abscess – definition and principles of treatment
24. Folliculitis, furuncle, carbuncle
25. Lymphadenitis a lymphangitis
26. Cheilitis and its complications
27. Systemic pyogenic infection – sepsis, toxemia, pyemia in surgery
28. Erysipelas and erysipeloid
29. Nosocomial infections and hospitalism
30. Anaerobic infections – clostridial infection
31. Cold injury, frostbites
32. Bite wounds
33. Firearm injuries – characteristics, principles of surgical treatment
34. Shock in surgery
35. Tumor markers and their importance

36. Crush syndrome
37. Blast syndrome
38. Purulent infections of fingers – paronychia
39. General principles of pre-operative assessment and care
40. Water and electrolyte balance in surgical patients
41. Complications of surgical wound healing
42. Cardiac and pulmonary postoperative complications
43. Gastrointestinal postoperative complications
44. Thromboembolic postoperative complications – prevention and treatment
45. Embolism and thrombosis – definition and basic classification
46. Fat and air embolism
47. Decubitus (pressure) ulcers – pathogenesis, prevention, treatment
48. Antibiotic prophylaxis in surgery
49. Use of antibiotics in treatment of surgical diseases
50. Peripheral and central venous catheters
51. Imaging diagnostic methods in surgery – RTG, USG, EUSG
52. Imaging diagnostic methods in surgical disciplines CT, PET-CT, MRI
53. Importance of endoscopic diagnostic and therapeutic methods – endoscopy, ERCP
54. Early and late postoperative complications after organ transplantation
55. Microsurgery and replantation surgery – their importance
56. Triage and transport principles after mass casualty incidents
57. Markers of sepsis in surgery
58. Wound healing using V.A.C.
59. Endoscopic diagnostic methods in the digestive system
60. Amputations and their indications
61. Postoperative pain management
62. Tissue approximation – types of stitches, staplers. Anastomoses and stomas
63. Hematemesis, melena and hemoptysis
64. Specific infections – tuberculosis, syphilis, anthrax, actinomycosis
65. Indications for surgery and types of surgical procedures
66. Premedication and its importance
67. Impairment of blood coagulation in surgical patients before and after surgery
68. Use of transfusion products and their importance
69. Diagnosis and treatment of precancerous lesions
70. The role of surgery in the diagnosis of tumors
71. History of organ transplantation
72. Complications after administration of transfusion products
73. Healing of chronic wounds, principles of treatment
74. Postoperative urological complications
75. Principles and benefits of early enteral nutrition in surgery
76. Principles of endoscopic treatment in the digestive system
77. Principles of miniinvasive surgery
78. Diabetic foot – principles of treatment
79. Indications and contraindications of transfusions, technique of transfusion administration

80. Principles of surgical treatment of malignant tumors
81. Adjuvant and neoadjuvant therapy of malignant tumors
82. Principles of liver, pancreas and small intestine transplantation
83. Importance of angioplasties and stents in vascular surgery
84. Surgical treatment of chronic pain
85. Tromboembolic disease and its prevention
86. Parenteral nutrition in surgery
87. Importance of measuring of intra-abdominal pressure in surgery
88. V.A.C and its importance in abdominal surgery
89. Definition of sepsis and septic syndromes
90. Burns – classification, first aid, initial management, treatment and complications
91. Moist wound healing products
92. Fractures in general. Classification of fractures. Primary and secondary fracture healing
93. Treatment of fractures (conservative and surgical)
94. Open fractures, classification and treatment
95. Fracture healing complications, badly healed (fracture male sanata), Sudeck syndrome
96. Prolonged bone fracture healing, pseudoarthrosis
97. Vascular suture, vascular access, basic methods of vascular reconstruction, vascular replacements and basic surgical rules of vascular surgery
98. Lymphatic system diseases and lymphedema – diagnosis and treatment
99. Extracranial arteries diseases, diagnosis and treatment
100. Limb arteries aneurysms, diagnosis and treatment

## **B. Thoracic and abdominal surgery**

1. Inguinal and femoral hernia
2. Umbilical, epigastric and incisional hernia
3. Diaphragmatic and other rare types of hernia
4. Strangulated hernia
5. Acute abdomen – definition, classification and role of general practitioner in diagnostic process
6. Acute appendicitis
7. Specific aspects of acute appendicitis in children, geriatric patients and pregnancy
8. Subacute appendicitis
9. Examination of patient with acute abdomen – history taking, physical examination, clinical and paraclinical investigations
10. Acute cholecystitis
11. Subacute cholecystitis
12. Cholecystolithiasis
13. Complications of cholecystolithiasis
14. Complications of cholecystectomy
15. Diseases of common hepatic duct, common bile duct and papilla of Vater
16. Surgical procedures on bile ducts
17. Hydrops and empyema of gallbladder
18. Acute cholangitis
19. Gallbladder cancer
20. Mechanical jaundice
21. Differential diagnosis of jaundice
22. Acute pancreatitis
23. Chronic pancreatitis
24. Pancreatic tumors – surgical treatment
25. Pancreatic cysts and pseudocysts
26. Gastroduodenal peptic ulcer – indications for surgery
27. Perforated gastroduodenal ulcer
28. Ulcerogenous pylorostenosis
29. Congenital pylorostenosis
30. Complications of gastroduodenal ulcer – surgical treatment – procedures on gastroduodenum
31. Gastric cancer
32. Peritonitis – classification, symptoms, most common causes
33. Peritonitis – diagnosis and treatment
34. Special types of peritonitis
35. Acute abdomen – ileus
36. Mechanical ileus
37. Strangulative ileus
38. Vascular ileus – mesenteric thrombosis, abdominal angina
39. Upper GI-tract bleeding

40. Lower GI-tract bleeding
41. Injuries and caustic damage of the esophagus
42. Esophageal diverticula and strictures
43. Achalasia
44. GERD – pathology and surgical treatment
45. Crohn's disease and surgical treatment
46. Inflammatory disease of mammary gland
47. Diverticulosis and diverticulitis of the colon
48. Colon cancer
49. Anorectal fistulas and abscesses, pilonidal sinus
50. Hemorrhoids and anal fissure
51. Rectal cancer
52. Stool incontinence and its surgical treatment
53. Abdominal abscesses
54. Cysts and abscesses of the liver
55. Portal hypertension and possibility of treatment
56. Bening liver tumors
57. Intestinal invagination
58. Malignant liver tumors
59. Congenital and acquired diseases of the spleen
60. Foreign bodies in the respiratory and digestive tract
61. Surgical diseases of the retroperitoneum
62. Benign diseases of the mammary gland
63. Malignant mammary gland tumors
64. Injuries of digestive tube (stomach, small and large intestine)
65. Compartment syndrome – etiology, diagnosis and treatment
66. Traumatic acute abdomen – classification and diagnosis
67. Acute abdominal compartment syndrome, damage control surgery
68. Hernia in children
69. Congenital diaphragmatic hernia
70. Congenital defects of the anterior abdominal wall
71. Esophageal atresia
72. Atresia and stenosis of the intestine
73. Anorectal malformation
74. Intestinal malrotation
75. Meconium ileus
76. Hirschsprung's disease
77. Congenital malformations of the colon and rectum and their surgical management
78. Atresia of the biliary tree
79. Acute appendicitis in childhood
80. Heart transplantation
81. Fundamental techniques in plastic surgery – general principles and surgical techniques
82. Skin graft and skin flaps, musculocutaneous flaps
83. Benign and malignant skin tumors, malignant melanoma

84. Cleft lip and palate, aesthetic surgery
85. Traumatic injuries of the spleen
86. Traumatic duodenum and pancreas injury
87. Paralytic ileus
88. Traumatic injuries of the liver
89. Pneumothorax (non- traumatic) – types and therapy
90. Tracheostomy – indications, tracheal stenosis
91. Pleural exudates from surgical point of view
92. Thoracic empyema
93. Lung abscess
94. Tumors of the lungs
95. Mediastinal tumors
96. Principles of the lung transplantation
97. Esophageal tumors
98. Injuries of retroperitoneum
99. Syndromes in vascular surgery – Thoracic Outlet Syndrom, Entrapment syndrome, Cystic degeneration of the popliteal artery
100. Vascular malformations and tumors

## **C. Orthopaedics, neurosurgery, cardiosurgery, urology, vascular surgery, traumatology**

1. Congenital deformities of the foot
2. Acquired deformities of the foot
3. Congenital systemic bone diseases
4. Developmental dysplasia of the hip
5. Aseptic bone necroses
6. Metabolic bone diseases (except osteoporosis)
7. Osteoporosis and osteoporotic fractures
8. Acute non-specific osteomyelitis
9. Chronic non-specific osteomyelitis
10. Arthritides and their differential diagnosis
11. Specific inflammations of bones and joints
12. Osteoarthritis
13. Joint replacement surgery
14. Deformities of the spine
15. Malignant bone tumors
16. Benign bone tumors
17. Angular and longitudinal deformities of limbs
18. Congenital and acquired diseases of muscles and tendons
19. Methods of regenerative medicine in orthopaedics
20. Orthotics and prosthetics, orthopaedic care
21. Degenerative and inflammatory diseases of the spine
22. Hydrocephalus
23. Congenital anomalies of the skull
24. Intracranial hypertension
25. Skull fractures
26. Traumatic brain injury
27. Epidural hematoma
28. Subdural hematoma – acute and chronic
29. Intracerebral hemorrhage
30. Spinal cord injury
31. Fractures of the thoracic and lumbar spine
32. Fractures of the cervical spine
33. Peripheral nerve injury
34. Brain tumors – supratentorial
35. Brain tumors – infratentorial
36. Primary spinal and spinal cord tumors
37. Secondary spinal and spinal cord tumors
38. Brain abscess, spinal epidural abscess
39. Surgical treatment of pain
40. Brain aneurysms, subarachnoid hemorrhage

41. Acquired heart valve diseases, surgical treatment of valvular heart disease: valve replacement and valve repair techniques
42. Congenital heart defects in the adult (diagnosis, treatment)
43. Congenital heart defects in childhood (diagnosis, treatment)
44. Cardiac tamponade and pericardial diseases
45. Ischemic heart disease (etiology, diagnosis, complications, treatment)
46. Heart rhythm disorders – surgical treatment and cardiopulmonary bypass
47. Aortic aneurysm and dissection (ascending aorta and arch, etiology, diagnosis, treatment)
48. The most common complications of acute myocardial infarction and their surgical treatment
49. Minimally invasive heart surgery
50. Cardiac trauma and great vessels injuries
51. History and physical examination in urology
52. Laboratory, imaging and endoscopic examinations in urology
53. Anuria and retention of urine
54. Hematuria
55. Renal colic
56. Acute scrotum
57. Congenital anomalies of the urinary tract
58. Congenital anomalies of the male genitalia
59. Injuries of the urinary tract and male genitalia
60. Upper urinary tract infection
61. Infection of lower urinary tract and male genitalia
62. Urolithiasis
63. Urinary tract obstruction, urosepsis
64. Benign hyperplasia of the prostate
65. Urinary incontinence, neurogenic urinary disorders
66. Renal tumours
67. Prostate cancer
68. Bladder tumours
69. Tumors of the external male genitalia
70. Erectile dysfunction, fertility disorders
71. Vascular accesses for hemodialysis (pre operative and postoperative care, methods and principles of creation AVF)
72. Acute limb ischemia, diagnosis and treatment
73. Chronic venous insufficiency and its treatment
74. Thrombophlebitis and phlebothrombosis – diagnosis and treatment
75. Complications of Arteriovenous Connection (Arteriovenous Fistulas)
76. Ischemic disease of the lower limbs – etiology, pathogenesis treatment
77. Critical limb ischemia
78. Aneurysm of abdominal aorta and iliac arteries, diagnosis and treatment
79. Diseases of the visceral branches of the abdominal aorta - truncus coeliacus, superior mesenteric artery, inferior mesenteric artery



80. Injuries of large vessels – diagnosis, first aid, definitive treatment, compartment syndrome
81. Polytrauma, stage treatment of patient (damage control surgery)
82. Elbow and knee dislocation (luxation)
83. Thoracic wall injuries (sternum fracture, rib fracture, serial fracture, flail chest)
84. Traumatic pneumothorax
85. Traumatic haemothorax
86. Airway injury (tracheobronchial injury), lung contusion
87. Proximal femur fractures (neck of femur, pertrochanteric, subtrochanteric fractures)
88. Shaft of femur, tibia and fibula fractures and their complications
89. Proximal tibia and patella fractures
90. Intraarticular (pilon) and extraarticular distal tibia fractures, ankle fractures
91. Pelvis fractures and their complications
92. Acetabulum fractures and their complications
93. Fractures of the upper end of the humerus, humeroscapular luxation
94. Shaft and distal humerus fractures of adults, supracondylar fractures in children
95. Calcaneus and base of 5<sup>th</sup> metatarsal fractures
96. Injuries of knee area (meniscus, cruciate and collateral ligaments)
97. Wrist scaphoid (navicular) bone fracture, base of the 1<sup>st</sup> metacarpal bone fracture
98. Distal radius fracture
99. Fractures of the olecranon and the head of the radius
100. Fractures of the clavicle and acromioclavicular luxation

## D. Images

1. Developmental dysplasia of hip
2. Morbus Perthes
3. Scoliosis
4. Osteochondroma of femur and tibia
5. Osteoarthritis of the hip
6. Total hip replacement
7. Osteoarthritis of the knee
8. Total knee replacement
9. Hallux valgus
10. Bone tumor of the humerus (osteosarcoma)
11. Empyema thoracis l.dx (CT)
12. Pneumothorax l.dx (X-ray)
13. Abscess of the lungs
14. Left lower lobe lung tumor (CT)
15. Tumor of the anterosuperior mediastinum (CT)
16. Brain contusion
17. Lung contusion (CT)
18. Right-sided haemothorax
19. Liver laceration
20. Intraarticular fracture of distal end of the left radius
21. Trochanteric fracture of left femur
22. Fracture of left acetabulum
23. Proximal humerus fracture with shoulder dislocation
24. Tibial pilon fracture (3D reconstruction of ankle CT scan)
25. Comminuted fractures of proximal end of both tibiae with left popliteal artery injury (3D reconstruction of lower extremity CT angiography)
26. Dissection of the ascending aorta and aortic arch (CT)
27. Right-sided aortic arch, coarctation of the aorta, aneurysm of the descending aorta, atypical distance of the left subclavian artery (3D reconstruction of CT)
28. Retrograde filling of left mammary artery bypass after its use as a graft for the left anterior descending artery bypass in state of the stenosis of the left subclavian artery (steal phenomenon) – coronary angiography findings
29. Aneurysm of the ascending aorta (3D reconstruction of CT)
30. Two-vessel coronary stenosis (coronary angiography)
31. Esophageal diverticulum
32. Esophageal achalasia
33. Chronic calcificated pancreatitis (CT)
34. Pneumoperitoneum (X-ray)
35. Pancreatis pseudocyst
36. ERCP – common bile duct stones

37. Pneumoperitoneum (CT)
38. Tumorous infiltration of stomach (CT)
39. Small bowel obstruction (plain X-ray)
40. Large bowel obstruction (plain X-ray)
41. Tumor of the middle third of the esophagus (CT)
42. Diaphragmatic hernia (CT)
43. Dilated biliary tree (MR)
44. Hiatal hernia (X-ray)
45. Multiple liver tumors (CT)
46. Paresis of the right diaphragm
47. Liver abscess (CT)
48. Liver cysts (CT)
49. Foreign body in the digestive tract (X-ray)
50. M. Hirschsprung (X-ray)
51. Paraesophageal hernia (CT)
52. Esophageal cancer (X-ray)
53. Neuroendocrine tumor of the pancreas (CT)
54. Tumor of the pancreatic head (CT)
55. Dilatation of major pancreatic duct (ERCP)
56. Drainage of left pleural space (RTG)
57. Benign breast dysplasia (mammography)
58. Malignant breast tumor (mammography)
59. Mammography (normal finding)
60. Esophageal atresia (X-ray)
61. Duodenal atresia (X-ray)
62. Anal atresia (X-ray)
63. Diaphragmatic hernia (X-ray)
64. Injury of the spleen (contrast CT)
65. Pneumomediastinum (CT)
66. Lung contusion/ARDS (X-ray)
67. Pectus excavatum (X-ray)
68. Skeletal metastasis (X-ray)
69. Malignant stenosis of rectum (irrigography)
70. Bowel invagination I. (X-ray)
71. Bowel invagination II. (X-ray)
72. Fluidothorax l.sin (X-ray)
73. Tracheal stenosis (CT)
74. Rectal tumor (CT)
75. Herniated intervertebral disc L5/S1 (MR)
76. Herniated intervertebral disc C3/4 (MR), X-ray after operation
77. Glioblastoma multiforme - high grade malignant brain tumor (MR)
78. Epidural hematoma (CT)
79. Hydrocephalus (CT)
80. Basilar tip aneurysm before and after coiling (DSA)

81. Posterior fossa tumor – meningioma (MR)
82. Acute subdural hematoma (CT)
83. Multiple brain supra and infratentorial metastases (MR)
84. Left-sided intracerebral parietooccipital hematoma (CT + CTA<sub>g</sub>)
85. Paraganglioma of the neck
86. Cystic lesion on the neck
87. Chronic occlusion of superior mesenteric artery
88. Stenosis of internal carotid artery (DSA)
89. Occlusion of subclavian artery, subclavian steal phenomenon (DSA)
90. Occlusion of common iliac artery – PTA (DSA)
91. Contralateral dystopia of the left kidney to the right (contrast CT in a newborn)
92. Megaureter and hydronephrosis of the double right kidney (contrast CT in a newborn)
93. Solitary cortical cyst of the right kidney (contrast CT)
94. Right-sided active VUR of the 3rd degree during urination (micturition cystourethrography)
95. Bilateral renal carcinoma – lower pole of the left kidney, between the proximal and middle part of the right kidney (contrast CT)
96. Irregular tumor of the renal pelvis surrounded by contrast – left kidney (CT urography)
97. Tumor of the right adrenal gland (CT)
98. Nephrostomy – visualization of the kidney and proximal ureter after administration of contrast through nephrostomy
99. USG of kidneys – cyst on the left and tumor on the right kidney
100. Obstruction of the ureter with a stone and perirenal abscess