# **Questions for State Rigorous Exam in Surgery 2023-2024**

General Surgery:

1. Local anesthesia, regional anesthesia (peripheral nerve blocks, epidural and spinal anesthesia)
2. Purulent infection of hand and fingers
3. Sterilization, asepsis, disinfection, antisepsis
4. Antibiotics in surgery
5. Intravenous fluid therapy, fluid and electrolyte balance and disorders, types of intravenous fluids
6. SSI – Surgical site infections: classification, prevention, diagnosis, treatment
7. Purulent (non-necrotizing) infection of skin and soft tissues, diagnosis, treatment
8. Necrotizing and anaerobic infections of skin and soft tissues, diagnosis, treatment
9. Osteomyelitis
10. Mass-casualty incidents, principles of triage and stages of management, the START system
11. Pressure ulcers – classification, treatment
12. Types of wounds – classification, characteristic, algorithm of treatment
13. Wound healing
14. Blood transfusion, indications, general principles, blood type systems, transfusion safety measures, administration of transfusions, complications
15. Sepsis, Systemic Inflammatory Response Syndrome (SIRS), MODS
16. Principles of cancer management
17. Nutritional management and acid-base balance in the surgical patient
18. Physical examination in surgery
19. Principles of transplantation surgery
20. General anesthesia – intravenous and inhalational anesthetics
21. Preoperative assessment – patient fitness for surgery, risks of a surgical intervention, classification
22. Legal aspects of surgical interventions
23. Cricothyrotomy, tracheostomy (indication for intervention)
24. Principles of postoperative care (recovery room, ICU)
25. Thromboembolic disease – prevention of venous thromboembolism in surgery
26. Cardiovascular and respiratory postoperative complications
27. Gastrointestinal and urinary postoperative complications
28. Thoracentesis and chest tube drainage
29. Principles of plastic surgery
30. Pathophysiology of shock, classification
31. Shock - prevention and treatment
32. Bleeding, classification, first aid, treatment
33. Cardiopulmonary resuscitation
34. Preoperative management – preoperative lifestyle modification, fasting and medical problems
35. Present-day war injuries, injuries in terrorist attacks, characteristics and treatment
36. Burns and frostbites
37. Diagnostic methods in surgery - laboratory tests, imaging methods
38. Nosocomial infection (healthcare-associated infections) – definition and classification
39. Types of sutures in surgery, suture materials, staplers
40. Operating theatre, operating room equipment, operating room staff, personal protective equipment

Special Surgery

1. Definition and classification of acute abdomen
2. Clinical manifestation of acute abdomen
3. Abdominal pain in the right lower quadrant, differential diagnosis
4. Abdominal pain in the epigastrium and right upper quadrant, differential diagnosis
5. Abdominal pain in the left lower quadrant, differential diagnosis
6. Obstructive jaundice
7. Hematemesis, melena, hematochezia
8. Pneumoperitoneum – etiology, diagnosis, therapy
9. Non-traumatic hemoperitoneum – local and systemic causes
10. Classification of intraabdominal infections
11. Acute peritonitis, classification and principles of diagnosis and treatment
12. Acute appendicitis
13. Acute appendicitis in children
14. Acute appendicitis: uncomplicated vs complicated course
15. Atypical manifestation of acute appendicitis – etiology and clinical manifestation
16. Acute cholecystitis, acute cholangitis
17. Acute pancreatitis
18. Acute diverticulitis, complications
19. Subdiaphragmatic abscesses
20. Classification and pathophysiology of bowel obstruction and bowel strangulation
21. Mechanical bowel obstruction
22. Incarcerated abdominal hernias
23. Bowel volvulus and bowel intussusception
24. Intestinal ischemia
25. Paralytic ileus
26. Upper GIT bleeding
27. Lower GIT bleeding
28. Classification of traumatic acute abdomen (penetrating and blunt trauma)
29. Trauma of liver and spleen
30. Cholelithiasis – symptomatology and complications
31. Inguinal and femoral hernias
32. Uncommon hernias – pelvic hernias, lateral abdominal wall hernias
33. Ventral hernias (umbilical, supra-umbilical, incisional, parastomal)
34. Chronic pancreatitis
35. Surgery for peptic ulcer disease complications
36. Ulcerative colitis, Crohn´s disease
37. Anal abscess and fistula
38. Anal fissures and hemorrhoids
39. Pilonidal cyst – etiology, clinical manifestation, and treatment
40. Hiatal hernia and GERD, esophageal achalasia
41. Mediastinum – injuries, inflammation, tumors
42. Pneumothorax, hemothorax, pleural effusion (pleural empyema, malignant pleural effusion)
43. Lung trauma, complications of pneumonia, emphysema of the thorax
44. Cysts and abscesses of the liver, benign liver tumors
45. Goiter, classification. Thyrotoxicosis.
46. Thyroid gland tumors
47. Tumors of the esophagus
48. Tumors of the stomach
49. Malignant liver tumors
50. Tumors and inflammation of the small intestine
51. Tumors of the large intestine and rectum – screening, clinical manifestations, diagnosis
52. Tumors of the bile duct and ampulla of Vater
53. Tumors of the pancreas – clinical manifestation, treatment
54. Neuroendocrine tumors of the GIT
55. Malignant melanoma
56. Sarcomas of soft tissues (in extremities and retroperitoneum)
57. Tumors of the lung
58. Tumors of the mammary gland – classification, screening, diagnosis, treatment
59. Inflammations of the mammary gland – classification, differential diagnosis, treatment
60. Hernias, phimosis and cryptorchidism in childhood
61. Pyloric stenosis and intussusception in children
62. Necrotizing enterocolitis in children
63. Most common congenital development defects of the GIT in children
64. Most common congenital development defects of the thorax in children (excluding heart defects)
65. Appendectomy (laparoscopic and open)
66. Cholecystectomy (laparoscopic and open)
67. Colon and rectal surgery
68. Stomas in the digestive tract
69. Mini-invasive interventions in surgery (laparoscopy – diagnostic, therapeutic, types of operations; endoscopy; mini-invasive interventions in thoracic surgery – types)
70. Bariatric and metabolic surgery
71. Splenectomy, indications for splenectomy
72. Surgery on the thyroid gland and parathyroid bodies, types of operations, risks, complications

Traumatology:

1. Injury – definition, aetiology
2. Polytrauma, classification, timing of therapeutic procedures – ATLS
3. Crush syndrome, blast syndrome
4. Craniocerebral trauma
5. Classification of fractures
6. Conservative (nonoperative) treatment of fractures
7. Surgical (operative) treatment of fractures
8. Open fractures – classification and principles of treatment
9. Types of immobilizations – bandage, plaster cast, splints
10. Compartment syndrome (extremity, abdominal)
11. Fracture complications
12. Pediatric fracture - characteristics and principles of treatment
13. Soft tissue injury (skin, subcutaneous tissue, muscle, tendon, ligament)
14. Joint injury
15. Shoulder dislocation
16. Clavicle fracture, scapula fracture, acromioclavicular joint injury
17. Proximal humerus fracture
18. Humeral shaft fracture
19. Distal humerus fracture in children and adults
20. Around elbow fractures, elbow dislocation
21. Forearm fractures
22. Distal radius fracture
23. Fracture and dislocation of carpal and metacarpal bones. Finger fracture.
24. Pelvic fracture - classification and treatment
25. Hip fractures - classification and treatment
26. Femoral shaft fracture
27. Distal femoral fractures
28. Knee ligaments injury, meniscus tears, osteochondritis dissecans
29. Tibial plateau fracture, patella fractures, patellar dislocation
30. Tibia and fibula shaft fractures
31. Achilles tendon rupture
32. Ankle fractures
33. Ankle sprains
34. Calcaneal fracture
35. Metatarsal and phalangeal fractures
36. Vertebral fractures - classification, diagnosis, treatment
37. Cervical vertebrae fractures
38. Ribs and sternum fractures
39. Tendon and ligament injury of the hand

Cardiac surgery and vascular surgery:

1. Tetralogy of Fallot

2. Myocardial protection (during open heart surgery)

3. Congenital ventricular septal defects

4. Critical limb ischemia

5. Aortic valve disease (acquired) and aortic valvule surgery

6. Tricuspid valve disease (congenital, acquired), tricuspid valve surgery

7. Vascular injuries

8. Atrial septal defect, anomalous pulmonary venous return

9. Chronic venous insufficiency - pathophysiology, symptoms, complications, treatment

10. Transposition of the great arteries

11. Thromboembolic disease

12. Mechanical and biological arteficial valve prostheses

13. Congenital malformation of the thoracis aorta

14. Surgery of cardiac arrhythmias

15. Pericardial disease and surgery

16. Surgery of cerebrovascular insufficiency (symptomatic and asymptomatic stenosis of the carotid artery)

17. Vascular reconstruction (anatomically and extraanatomically)

18. Hypothermia in cardiovascular surgery

19. Ischemia of visceral arteries (tr. coeliacus, a. mesenterica sup., a. renalis, aa.il.int.). Clinical manifestation and therapy.

20. Aortoiliac atherosclerotic occlusive disease. Leriche syndrome.

21. Peripheral artery disease, endovascular interventions and surgical procedures

22. Vascular access for hemodialysis (A-V fistulas)

23. Cardiac injury and great vessels trauma (blunt and penetrating injuries)

24. Cardiac tamponade

25. Surgery of ischemic heart disease

26. Mechanical complications of myocardial infarction (papillary muscle rupture, ventricular septal rupture, free wall rupture, aneurysm of the left ventricle)

27. Vascular complications of diabetes mellitus - surgical therapy.

28. Heart transplantation

29. Arterial aneurysm, clinical manifestation, diagnosis and treatment

30. Infectious endocarditis

31. Complications in vascular surgery (early thrombosis of the graft vessel, infection)

32. Clinical examination in patients with vascular disease

33. Abdominal aortic aneurysm (symptoms, diagnosis, therapy)

34. Thoracic aortic aneurysm

35. Mitral valve disease and surgery of the mitral valve

36. Thoracic outlet syndrome

37. Principle of extracorporeal circulation

38. Congenital pulmonary artery anomalies

39. Thoracic aortic dissection

40. Mechanical heart support, ECMO

41. Acute arterial occlusions (embolism, thrombosis)

42. Pharmacotherapy in vascular surgery (antiplatelet agents, anticoagulants, vasodilatory drugs)

43. Coarctation of the aorta, ductus arteriosus - Botallo duct (therapy)

44. Endovascular interventions for arterial occlusions and stenoses

45. Basic principles of vascular surgery, types of prostheses