1. N.I. Pirogov and his contribution to Russian Medical School
    1) N.I. Pirogov as a founder of surgical anatomy;
    2) N.I. Pirogov as a founder of experimental surgery.

2. Topographic anatomy and operative surgery of extremities
    1) Topographic anatomy of axillary region: layers and their features. Axillary artery, vein, brachial plexus - their syntopy. Surgical approaches to axillary artery. Development of collateral blood supply in case of thrombosis of axillary artery.
    2) Pirogov Laws of vascular-nerve bundles fascia sheath constitution and their meaning in vascular surgery. Projective lines of axillary, brachial, radial, femoral, popliteal and tibial arteries. Vascular suture. Main types of vascular plastics: auto-, alloplastic, graft plastic.
    3) Topographic anatomy of shoulder (brachial) region. Fascial sheaths, vascular-nerve bundles. Surgery approaches to vascular-nerve bundles, their topographic meaning. Surgery approach to brachial artery and radial nerve. Operations on nerves: neurotomy, neurolysis, neuroraphia.
    4) Topographic anatomy of the elbow. Vascular-nerve bundles. Wrist disorders due to trauma of radial nerve because of comminuted fracture.
    5) Topographic anatomy of forearm region. Fascial sheaths, vascular-nerve bundles. Cellular spaces. Operative approaches to ulnar, radial arteries, median nerve.
    6) Cellular spaces of wrist. Anatomical explanations of inflammation development and incisions in case of wrist flegmon. Abscess surgical treatment in Pirogov space. (забыла как грамотно будет пространство Пирогова).
    7) Topographic anatomy of fingers. Constitution of fibrous and synovial sheaths of fingers. Incisions in treatment of subcutaneous felon. Microsurgical technique and its meaning in finger replantation. Tendon suture, Dubrov's tendon plastic.
    8) Topographic anatomy of gluteal region. Vascular-nerve bundles, cellular spaces. Routes for purulent distribution. "Safe" point of intramuscular drug injections. Ways to stop bleeding of gluteal vessels.
    9) Surgical anatomy of femoral canal: walls, deep and superficial foramen. Anatomical features for femoral hernia formation. Surgeries to treat femoral hernias, plastic of hernia neck. Definition of "Corona Mortis".
    10) Surgical anatomy of femoral artery and vein. Development of collateral blood supply in case of femoral artery thrombosis on different levels. Puncture of femoral artery by Seldinger.Selective angiography, endovascular surgery.

11) Surgical anatomy of knee joint. Puncture, arthrotomy, resection of knee joint. Arthrodesis and arthroplasty. Endoprothesis of joints.
12) Topographic anatomy of posterior knee region. Borders, layers, syntopy of vascular-nerve bundle of popliteal fossa. Surgical approaches to popliteal artery. Development of collateral blood supply due to ligation of popliteal artery. Types of vascular suture. Requirements for vascular suture. Mistakes and complications. Mechanical vascular suture.
13) Topographic anatomy of tibia. Fascial sheaths, vascular-nerve bundles. Surgical approaches to fibular arteries. Surgical treatment of varicose veins and post thrombophlebitic syndrome.
14) Topographic anatomy of foot. Muscular-fascial sheaths of plantar side, vascular-nerve bundles, cellular spaces, spreading of puss in case of plantar flegmone.
15) Surgical approaches to long tubular bones, their topographic and anatomical explanation. Osteotomy, osteosynthesis and its types. Principle of compression-destructive apparate in bone fracture treatment.
16) Amputations and exarticulations. Classification of amputations. Main steps of operation. Ways to prepare periosteum, bone, magistral vessels and nerves. Meaning of vicious stump and reamputations. Steps of protesis procedure.

3. Topographic anatomy and operative surgery of the head.

1) Topographic anatomy of fronto-parieto-occipital region. Layers, cellular spaces, vascular-nerve bundles. Primary surgical treatment of cranial wounds.
2) Blood supply of cerebellar part of head: blood vessels of subcutaneous layer, spongious substances of cranial bones, dura mater, sinuses. Typical localization of intracranial hematomas. Meaning of spinal puncture in case of cranial traumas and diseases of brain.
3) Surgical anatomy of dura mater sinuses. Meaning of superficial cerebral veins and facial veins connection with sinuses of dura mater in case of inflammatory processes. Ways to perform hemostasis from sinuses of dura mater.
4) Topographic anatomy of temporal region and mastoid process. Projection lines of medial meningeal arteries, central (Roland) and lateral (Silvil) sulcuses. Ligation of medial artery of dura mater. Decompressive trepanation by Cushing and bone-plastic trepanation by Oliverckron: indications, main steps of surgery.
5) Blood supply of brain: carotid and vertebral-basilar pools, extra and intracranial parts of brain supplying arteries, routes for venous outflow. Ways to restore blood supply of

brain due to occlusion of brachiocephalic trunk, carotid and vertebral arteries. Endovascular treatment of the aneurysms of brain supplying arteries.

6) Liquor routes in brain. Meaning of hydrocephalia. Puncture of anterior and posterior horns of lateral ventricles. Meaning of liquor draining operations.
7) Topographic anatomy of parotid-masticatory regions. Parotid glands, "weak places" of capsule, interaction of blood vessels and facial nerve. Requirements to facial incisions. Incisions in case of purulent parotidis.

4. Topographic anatomy and operative surgery of the neck.

1) Topographic anatomy of anterior neck triangle. Main vascular-nerve bundle. Carotid triangle. Operative approach and ligature of external carotid artery.
2) Surgical anatomy of cervical part of vagus nerve and sympathetic trunk. Vagosympathetic blockage by Vishnevsky (cervical approach).
3) Surgical anatomy of thyroid gland. Parathyroid glands. Subtotal subfascial resection of the thyroid gland by Nikolaev. Possible complications and prophylaxis.
4) Surgical anatomy of larynx and cervical part of trachea. Tracheostomy: indications, steps of surgery. Possible complications and their profilaxis.
5) Surgical anatomy of pharynx and cervical part of esophagus. Esophagotomy, esophageal suture.
6) Topographic anatomy of posterior neck triangle. Puncture and catheterisation of subclavicular vein: indications, possible complications. Surgery approaches to subclavicular artery by Petrovsky and Janelidze.
7) Surgical anatomy of thoracic duct. Danger of traumatization of thoracic duct during surgery on esophagus. External drainage of thoracic duct. Lymphosorbtion.
8) Fascias and cellular spaces of the neck. Localization of abscesses and phlegmons, distribution of purulent inflammation during neck phlegmon. Surgeries due to abscesses and phlegmons of the neck.

5. Topographic anatomy and operative surgery of thoracic cavity and thoracic wall.

1) Topographic anatomy of thoracic wall. Projective lines of thoracic organs and peritoneal organs, layers, vascular-nerve bundles, cellular spaces. Primary surgical treatment of penetrating wound of chest. Suturing of open pneumothorax.
2) Surgical anatomy of mammary gland. Routes of lymph drainage. Regional lymph nodes of mammary glands. Surgery because of purulent mastitis. Sectoral resection of mammary gland. Surgery because of mammary cancer. Plastic surgery on mammary glands.

3) Surgical anatomy of diaphragm. Anatomical correlation of diaphragm and inferior vena cava, esophagus and aorta. Meaning of diaphragmatic hernias. Usage of diaphragm sheaths in plastics.
4) Surgical anatomy of pleura. Pleural cavity. Intrapleural spaces. Puncture and drainage of pleural cavity. Types of thoracotomy.
5) Surgical anatomy of lungs. Hilum and root of lung. Lobar and segmental constitution. Surgical approaches to lungs. Suturing of lung wound, pneumonectomy. Contribution of surgeons in development of lung surgery (Spasokukotsky, Bakulev).
6) Mediastinum. Borders and its parts. Organs, blood vessels, nerves, lymph nodes and cellular-fascial structures. Displacement of organs due to pathological processes. Surgical anatomy of thymus. Extra- and pleural approaches to organs of mediastinum.
7) Surgical anatomy of heart and pericardium. Inborn and acquired heart diseases. Surgical treatment of heart and blood vessels diseases.
8) Surgical anatomy of heart and pericardium. Blood supply and innervation of heart. Operations due to coronary diseases. Pericard punture, draining of pericardial cavity.
9) Surgical anatomy of thoracic part of esophagus. Surgical approaches to esophagus. plastic of esophagus by Rou-Herzen, Dobromyslov-Thoreck surgery.

6. Topographic anatomy and operative surgery of the anterolateral wall of abdominal wall.
1) Topographic anatomy of anterolateral abdominal wall. Projection of organs peritoneal cavity. Types of laparotomies, their anatomical explanation. Laparoscopic surgeries on organs of peritoneal cavity.
2) Topographic anatomy of umbilical region. Linea alba, umbilical ring. Topographic and anatomical explanations of medial laparotomies. Surgeries on umbilical hernias and linea alba hernias.
3) Topographic anatomy of inguinal region. Groin gap. Inguinal canal. Types of inguinal hernias. Anatomical preconditions of straight and oblique hernia appearance. Steps of inguinal hernia surgical treatment.
4) Surgical anatomy of direct and oblique inguinal hernias. Main principles of inguinal canal plastics., possible complications and mistakes.
5) Anatomical preconditions for strangulated hernia. Main steps in surgical treatment of strangulated inguinal and femoral hernias. Danger and possible complications. Specific features of treatment of inborn and sliding inguinal hernias.

7. Topographic anatomy and operative surgery of peritoneal cavity.

1) Peritoneum, its features. Peritoneum and peritoneal cavity: parts, connection with lesser pelvis. Main marks of peritoneal cavity. Great omentum bordering of inflammatory processes of peritoneal cavity. Revision of peritoneum in case of penetrating wounds.
2) Upper part of peritoneal cavity. Excavations and their connections with lower part and their meaning in inflammatory processes and hematomas. Lesser omentum, its content, omental bursa. Surgical approaches to omental bursa and their explanations.
3) Lower part of peritoneal cavity. Mesenteric sinuses, lateral canals, their connection with upper part and lesser pelvis. Pouches of lower part. Their meaning in inflammatory processes, hematomas, internal hernias. Gubarev method to find duodenojejunal flexure.
4) Surgical anatomy of liver.. Intraorgan topography of blood vessels and biliary ducts (lobar and segmental). Surgical approaches to the liver. Hemostatic suture of liver. Suturing of hepatic wounds. Typical and atypical hepatic resection.
5) Surgical anatomy of gallbladder. Surgical approaches to gallbladder. Cholecystectomy, cholecystotomy: indications, methods, steps. Possible complications and danger.
6) Surgical anatomy of extrahepatic biliary ducts. Variants of anatomical correlations of common hepatic duct and pancreatic duct. Methods of external and internal drainage of biliary ducts because of obstructive jaundice (cholecysto- and choledochotomy, cholecystojejunostomy, choledochoduodenostomy).
7) Surgical anatomy of portal vein. Porto-caval anastomosis. Meaning of splenoportography and transumbilical portography in diagnostics of hepatic disease. Understanding of surgical treatment of portal hypertension.
8) Surgical anatomy of stomach. Surgical approaches to stomach. Suturing of perforating ulcers. Understanding of selective vagotomy with draining surgeries in treatment of gastric and duodenal ulcers.
9) Gastrotomy. Gastrostomy: indications, types (Vitzel, Stamm-Cader, Toprover, Jukhtin), main steps. possible complications. Gastroenteroanastomosis: types, variants.
10) Stomach resection: indications, types. Defining of proximal border in case of minimal resection. Modern modifications of Billroth-1 and Billroth-2.
11) Surgical anatomy of duodenum. Usage of duodenum during internal draining surgery on biliary ducts. Meaning of papillosphincterotomy.

12) Surgical anatomy of pancreas. Surgical approaches. Operations due to acute pancreatitis, cysts and cancer of caput of pancreas.
13) Surgical anatomy of lesser intestine. Resection of lesse intestine. Types of intestinal anastomosis, their clinical and physiological explanation. Usage of intestine in plastic and reconstructive surgeries.
14) Surgical anatomy of ileocecal angle. Variants of placement of vermiform process and their clinical meaning. Types of surgical approaches to appendix. Methods to find the caecum and appendix. Appendectomy: methods,steps and possible complications.
15) Surgical anatomy of the colon. Colon resection. Colostomy. Imposing artificial anus.
16) Surgical anatomy of celiac trunk, superior and inferior mesenteric arteries. Blood supply disorders in organs of peritoneum. Selective angiography and surgeries in case of acute disorder of mesenteric blood supply.
17) Intestinal suture. Main types, requirements, features of intestinal sutures. Lamber, Pirogov-Cherni, Albert, Mateshuk, Mikulich, Schmitten, single row uninterrupted sutures. Suturing of gastric and intestinal wounds.

8. Topographic anatomy and operative surgery of lumbar region and retroperitoneal space.
1) Topographic anatomy of lumbar region: borders, layers, weak places. Surgical approaches to kidneys and ureter, their topographic and anatomical meaning.
2) Topographic anatomy of retroperitoneal space. Surgical anatomy of lumbar part of aorta, inferior vena cava, nerves, nerve plexuses. Cellular spaces and routes for inflammation spreading and hematoma. Surgery in case of purulent paranephritis.
3) Surgical anatomy of kidneys. Types of surgical approaches to kidney. Nephrotomy. Nephrectomy: indications, technique, possible complications.
4) Surgical anatomy of ureter. Ureter suture, indications, technique and requirements. Reconstructive and plastic surgeries of ureter.

9. Topographic anatomy and operative surgery of lesser pelvis.
1) Topographic anatomy of lesser pelvis. Lateral walls and bottom of lesser pelvis. Openings, canals and their content. Urogenital diaphragm and pelvic diaphragm. its meaning for organ fixation.
2) Topographic anatomy of peritoneal part of lesser pelvis. Anatomical correlations of peritoneum with organs of male and female pelvis, folds and excavations. Clinical meaning of excavations, opening and draining of abscesses of peritoneal part of lesser pelvis.

3) Topographic anatomy of subperitoneal part of lesser pelvis. Fascia and cellular space, routes of inflammatory and urine spreading. Draining of phlegmon of lesser pelvis.
4) Topographic anatomy of subcutaneous part of lesser pelvis (perineum region). Pubic region. Surgical anatomy of testis. Surgery because of cryptorchism and testis hydropsy.
5) Surgical anatomy of urinary bladder and prostate. Puncture of urinary bladder, cystotomy. Types of surgical approaches to prostate.
6) Surgical anatomy of pelvic part of ureter. Anatomical correlation of ureter with organs of lesser pelvis and blood vessels, meaning in case of surgery on lesser pelvis. Surgical approaches to pelvic part of ureter.
7) Surgical anatomy of uterus, fallopian tubes, ovaries. Operative approaches to uterus. Tubectomy ectopic pregnancy. Supravaginal uteral amputation.
8) Surgical anatomy of rectum: skeletotopy, syntopy, clinical meaning of curves. Fascial sheath of rectum. Anatomical localization of paraproctitis. Incisions in case of paraproctitis.
9) Surgical anatomy of rectum. Venous blood drainage, venous plexuses, submucous venous plexus of hemorroidal region. Anatomical predisposition of hemorrhoid arise. Hemorrhoidectomy by Martynov-Rhyzhih.
10) Surgical anatomy of rectum. Rectal closure apparatus. Cancer metastasis. Radical surgeries in rectal cancer.