maedu.kl skmaedu.kl skmaedu.kl skmaedu.kl Skura edu.kr

SKMa. edu. K. skma. edu. K. skma. edu. K. skma. edu. K. CONTROL AND MEASURING TOOLS

cal specification and test tasks for midter

223

hology (pathology) skna.edu.kl

skna.edu.kl skna.edu.kl

and code of the EP: 6B10115 "Medicine"

Amount of study hours/credits: 60 hours/ 2 credits

Course and semester of study: II year, IV semester. i.eduki sima eduki sim kna aduk akna ad Skra adukt akna adukt adu Stragedu. K. Skragedu. K. Skrag sknaedu.kl sknaedu.kl sknaedu.kl sknaedu.kl sknaedu.kl sknaedu.kl sknaedu.kl sknaedu.kl sknaedu.kl sknaedu.kl

АО «Южно-Казахстанская медицинская академия»

skna.edu.kl

skna.edu.kl skna.edu.kl

skna.edu.kl

skna.edu.kl

was edu.Kl

skna.edu.kl

skna.edu.kl

skna.edu.kl skna.edu.kl

skna.edu.kl skna.edu.kl

ma ahii.Kl skma.edu.Kl

skma.edu.kl skma.edu.kl

Department of Pathology and Forensic Medicine

63-11-2025 Page 1 of 28

skna edu kr skna e

skna.edu.kl

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Technical specification and test tasks for midterm exam 1

SKMA

امالر

- equestion>Changes in the structure of cells, tissues and organs accompanied by a violation of their SKMa edu.Kl. Skma edu.Kl. skma.edu.kl skma.edu.kl skma.edu vital functions are SKMa edu. K. SKMa
- <variant>alteration
- <variant>hypoxia

a.edu.K

ig edu.

naedu

- and necrosis

 paxia and dehydration

 ant>autolysis and tissue swelling

 variant>apoptosis and vacuolization of tissue

 variant>dysplasia and hyperplasia of the cell

 question>The types of alterations include

 variant>necrosis and apoptosis

 variant>hypoxia and dehydration

 variant>autolysis and tissue

 variant>

 va <variant>dysplasia and hyperplasia of the cell
- <question>Parenchymal dysproteinosis is:
- skna.edu.kl skna.edu.kl <variant>manifestation of protein metabolism disorders in the cytoplasm of cells
 <variant>manifestation of disorders of fat metabolism in connections wariant>manifestation of metabolic disorders in the cytoplasm of cells evariant>manifestation of metabolic disorders in the cytoplasm of cells evariant>manifestation of metabolic disorders in the parenchyma and in the cytoplasm of cells evariant>manifestation of metabolic disorders in the parenchyma and in the cytoplasm of cells evariant>decreased continuous co

- variant>manifestation of disorders of fat metabolism in the cytoplasm of cells
 variant>manifestation of metabolic disorders in the parenchyma and in the stroma of organs
 <question>Hyaline-drip dystrophy is characterized by skma.edu.kl skma.edu.kl skma.edu.kl

- <variant>inflammation

- water-salt metabolism

 variant>cell death

 <question>With hyaline-drip dystrophy, there is

 <variant>protein droplets in the cytoplasm of cells

 <variant>preservation ultrastructure

 <variant>vacuoles in the cytoplasm of cells

 <variant>vacuoles in the cytoplasm of cells

- <variant>enhancement of cell function
- <variant>colliquation necrosis
- <question>For hydropic liver dystrophy, it is characteristic ahiki skna.edu.ki skna.edu.ki
- <variant>vacuoles in the cytoplasm
- <variant>reduction of hepatocyte volume
- <variant>fat in the cytoplasm
- <variant>hyaline in the cytoplasm
- <variant>focal coagulation necrosis
- <question>For hydropic dystrophy, it is characteristic
- <variant>the appearance of vacuoles in the cytoplasm
- variant>appearance of fat droplets in the cytoplasm

Department of Pathology and Forensic Medicine

63-11-2025

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Page 1 of 28

- variant>the appearance of glycogen in the cytoplasm
- <variant>enhancement of cell function
- <variant>appearance of protein droplets in the cytoplasm
- <question>An 80-year-old patient with grade III obesity and suffering from diabetes mellitus has hyperglycemia and glucosuria, manifestations of macroangiopathy and microangiopathy, signs of circulatory insufficiency, hepatic and renal insufficiency. The nature of liver damage in the patient

SKMA

- <variant>fatty degeneration
- <variant>amyloidosis
- <variant>cirrhosis of the liver
- <variant>liver cancer
- <variant>hepatitis

s.edu.K

18.6911

- <question>In a man who died of chronic alcohol intoxication, a sharply enlarged liver, of a testy consistency, yellow appearance, was found at autopsy. When paraffin preparations were stained with SUDAN III, yellow-red (orange) vacuoles of various sizes were detected in the cytoplasm of hepatocytes. Name the type of dystrophy skna!
- <variant>parenchymal fatty
- <variant>carbohydrate parenchymal
- <variant>stromal vascular
- <variant>mesenchymal adipose
- <variant>hydropic parenchymal
- <question>The woman had diabetes for about seven years. She died of a brain hemorrhage. On autopsy, the kidneys are reduced in size, the surface of the kidneys is fine-grained, the cortical layer is thinned. Most of the glomeruli are reduced, the deposition of homogeneous pink masses is noted in them. In the preserved tubules, the epithelium of the narrow and distal segments is high, with a light foamy cytoplasm, when stained with carmine Best, the cytoplasm is colored bright red.
- Changes in the epithelium of the narrow and distal segments of the nephron are due to the presence
- <variant>glycogen
- <variant>hyaline
- -- nyanne
 <variant>of proteins
- <variant>of lipids
- <variant>uric acid salts
- <question>When examining a biopsy of the skin of a patient with pronounced obesity, the pathologist diagnosed a malignant form of obesity (hypertrophic variant), because he found excessive accumulation in adiposocytes
- <variant>neutral fats
- <variant>of fatty acids
- <variant>beta lipoproteins
- <variant>triglycerides
- <variant>glycolipids
- <question>Dystrophy is a pathological process, which is based on a violation of tissue and cellular a skina edu. kl skina edu. kl akina edu. Kra edu. Kra edu. Skug'sqn'ky metabolism, in cells and tissues develop skna.edu.kl skna.edu.kl skna.edu.kl

skna.edu

rma edu.Kl skma.edu.Kl

ma adu.Kl skma.edu.Kl

- <variant>structural changes
- <variant>metaplasia
- <variant>dysplasia
- <variant>autolysis

ekma edu ki

evma edu.kl skna edu.kl>autolysis variant>malignant transformation

SKMA

63-11-2025

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Page 1 of 28

skus ednik

skna.edu.kl

edu.Kl skna.edu.Kl

skna.edu.kl

- question>The man was suffered from kidney failure after antifreeze poisoning. Light microscopy of the kidney biopsy revealed vacuoles in the cytoplasm of nephrocytes, the staining of Sudan III was positive. Type of renal tubule epithelial dystrophy
- <variant>parenchymal fatty
- <variant>hyaline drip
- <variant>balloon
- <variant>hydropic
- <variant>parenchymal carbohydrate
- <question>The man developed acute renal failure after alcohol poisoning. Light microscopy of the kidney biopsy revealed vacuoles in the cytoplasm of nephrocytes, the color of Sudan III is negative.
- Type of renal tubule epithelial dystrophy
- <variant>hyaline drip
- <variant>fat
- <variant>balloon
- <variant>hydropic
- <variant>parenchymal carbohydrate
- <question>A 37-year-old patient turned about jaundice of the skin, he underwent a puncture biopsy of the liver. In histological sections, when stained with hematoxylin and eosin in hepatocytes, amorphous, pink-colored masses are determined (CHIC reaction and Sudan staining is negative). Specify the type of dystrophy, according to the classification by the localization of the process and by the type of impaired metabolism
- <variant>parenchymal protein dystrophy (hyaline drip)
- <variant>parenchymal protein dystrophy (horny).
- <variant>parenchymal protein dystrophy (granular).
- <variant>parenchymal protein dystrophy (hydropic).
- <variant>parenchymal fatty degeneration.
- <question>A 6-year-old patient who died of diphtheria, during an autopsy, a plaque was found in the tonsils, which was hardly removed with tweezers. Name the morphological substrate of diphtheria
- <variant>fibrinous film
- <variant>ulcer
- <variant>lacunar angina
- <variant>tonsil abscess
- <variant>follicular angina
- <question>A biopsy was performed on a patient suffering from viral hepatitis. The hydropic dystrophy of hepatocytes was revealed. Determine the outcome of dystrophy at the cellular level
- <variant>cell necrosis
- <variant>hepatosis
- <variant>fatty degeneration
- <variant>cell hypertrophy
- <question>Dystrophies developing in highly specialized cells of internal organs
 <variant>parenchymal
 <variant>stromal vascular skna.edu. skna edu.ki skna.edu.kl skna.edu.kl

erwa edu.ki

skna.edu.kl

skna.edu.kl

Kr skus ednikr

skna.edu.kl

uma edu.Kl

- <variant>stromal vascular
- <variant>mixed
- <variant>mineral
- ariant>alterative

skma.edu.kl skma.edu.kl

skna.edu.kl

skna.edu.kl

adu.Kl skna.edu.Kl

skna.edu.kl

skina edu.ki skina edu.ki

skna.edu.kl

skna.edu.kl

kma.edu.kl skma.edu.kl

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

- question>A 13-year-old girl who has been suffering from chronic glomerulonephritis for 5 years has protein up to 2% and hyaline cylinders in her urine. Histological examination of a kidney biopsy revealed hyaline-drip dystrophy of the tubule epithelium. Name the outcome of dystrophy
- <variant>epithelial necrosis
- <variant>kidney infarction
- <variant>glomerular amyloidosis

«Оңтүстік Қазақстан медицина академиясы» АҚ

- <variant>vascular hyalinosis
- <variant>stroma sclerosis
- <question>In a kidney biopsy of a 29-year-old patient with a diagnosis of "glomerulonephritis", small vacuoles filled with cytoplasmic fluid are detected in the epithelium of the convoluted tubules of the kidney. Indicate the outcome of this pathological process in the epithelium
- <variant>colliquation necrosis
- <variant>inflammation, dystrophy
- <variant>recovery
- <variant>sclerosis
- <variant>full blood

ia.edu

- <question>The liver is enlarged in volume, flabby consistency, ochre-yellow or yellow-brown in
 color on the incision this is
 <variant>"goose" liver
 <variant>"yellow" liver

- <variant>"goose" liver
 <variant>"yellow" liver
 <variant>hepatitis
 <variant>cirrhosis
 <question>A type of carbohydrate parenchymal dystrophy associated with impaired glycoprotein ycop skina.edu.kl skina.edu.kl metabolism
- <variant>mucous
- <variant>infiltrative

- <variant>transformation <
- <variant>resorption
- <variant>resorption
 <question>Appearance of the kidney in amyloidosis
- <variant>greasy, large
- <variant>fine-grained
- <variant>does not change
- <variant>wrinkled
- <question>Superficial reversible disorganization of connective tissue is characteristic of variant/>mucoid swelling skna.edu.kl skna.edu.kl skna.edu.kl

skna.edu.kl

skna.edu.kl

uma edu.Kl

- <variant>mucoid swelling
- <variant>fibrinoid swelling
- <variant>hyalinosis
- <variant>balloon dystrophy
- <variant>hyaline-drip dystrophy

skna.edu.kl

skma.edu.kl

skna.edu.

skma.edu.kl. skma.edu.kl.

skna.edu.kl skna.edu.kl

skna.edu.kl

skna edu.kr

maedu.Kl

skna.edu.kl

skna.edu.kl

skna edu.ki

skug'egn'ky

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Page 1 of 28

equestion>Deep irreversible disorganization of connective tissue is characteristic of

SKMA

ربلي

- <variant>fibrinoid swelling
- <variant>protein dystrophy
- <variant>of mucoid swelling
- <variant>of fatty degeneration

- skina edu.ki . a tissue or organ with mucoid swelling

 ased
 atrophied
 .variant>pale color
 .variant>full-blooded
 .question>A disease in which fibrinoid swelling is systemic
 .variant>tumor
 .variant>infectious diseases
 variant>obesity
 uestion>Mucoid swelling
 rariant>vascular-strr
 uriant>mixea
 riart ...or
 ..or
 ...or
 .

is equit

na.edu.

Maedu

- es edu.kl skna.edu.kl

- <variant>carbohydrate
 <variant>mineral
 <variant>mixed
 <question>Fibrinoid swelling refers to dystrophies
- <variant>protein

- <variant>mixed
- a.edu.kl skna.edu.kl skna.edu.kl skna.edu.kl <question>A 70-year-old patient died of rheumatic mitral valve disease of the heart, complicated by the development of chronic cardiovascular insufficiency. Changes that preceded the final changes of the mitral valve flaps: skna edu.kl
- <variant>fibrinoid swelling
- <variant>dysproteinosis
- <variant>amyloidosis

SKMA

SOUTH KAZAKHSTAN

MEDICAL ACADEMY

АО «Южно-Казахстанская медицинская академия»

Department of Pathology and Forensic Medicine

63-11-2025 Page 1 of 28

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

variant>steatosis

3.6811.4

ia.edu

<variant>hyperkeratosis

«Оңтүстік Қазақстан медицина академиясы» АҚ

- <question>Histological examination of the valve in a patient with rheumatic endocarditis determines a weak cytoplasmic basophilia, when stained with toluidine blue, purple-lilac staining is determined. Specify the type of dystrophy, according to the classification by the localization of the process and by the type of impaired metabolism
- <variant>stromal vascular dysproteinosis (mucoid swelling).
- <variant>stromal vascular dysproteinosis (fibrinoid swelling).
- <variant>stromal vascular dysproteinosis (hyalinosis)
- <variant>stromal vascular dysproteinosis (amyloidosis)
- <variant>stromal vascular fatty dystrophy
- <question>When examining the splenic artery of a patient suffering from hypertension for a long time, there is a thickening of the walls with a narrowing of the lumen and loss of elasticity, while the vessel has the appearance of a "translucent glass tube". Specify the type of dystrophy, according to the classification by the localization of the process and by the type of impaired metabolism.
- <variant>stromal vascular dysproteinosis (hyalinosis)
- <variant>stromal vascular dysproteinosis (fibrinoid swelling).
- <variant>stromal vascular dysproteinosis (mucoid swelling).
- <variant>stromal vascular dysproteinosis (amyloidosis)
- <variant>stromal vascular fatty dystrophy
- <question>When examining the brain of a patient who suffered from arterial hypertension for a long time, thickening of the walls of the arteries with narrowing of the lumen and loss of elasticity was noted, while the vessel has the appearance of a "translucent glass tube". Microscopically, thickening and deposition of pinkish homogeneous masses were found in the artery wall when stained with hematoxylin-eosin. Specify the type of dystrophy
- <variant>hyalinosis
- <variant>fibrinoid swelling
- <variant>mucoid swelling
- <variant>amyloidosis
- <variant>fatty degeneration
- <question>An autopsy of a patient who died of myeloma revealed enlarged kidneys, liver and spleen, having a "greasy" skipe on the installer. On the installer of the control of the con skna.edu.kl spleen, having a "greasy" shine on the incision. Specify the type of dystrophy
- <variant>stromal vascular dysproteinosis (amyloidosis)
- <variant>stromal vascular dysproteinosis (fibrinoid swelling).

- kidneys, white in color, with a "greasy" shine on the incision. Specify the type of dystrophy <variant>amyloidosis <variant>fibrinoid swelling

- <variant>mucoid swelling
- <variant>hyalinosis
- <variant>fatty degeneration
- <question>A 65-year-old patient suffering from pulmonary tuberculosis for a long time began to progressively develop chronic renal failure. He underwent nephrobiopsy (kidney biopsy), in which amorphous, homogeneous masses of red-pink color are determined when the Congo-red coloring used is stained red. Specify the type of dystrophy

skna.edi

«Оңтүстік Қазақстан медицина академиясы» АҚ

MEDICAL ACADEMY

АО «Южно-Казахстанская медицинская академия»

Department of Pathology and Forensic Medicine

63-11-2025

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

SKMA

Page 1 of 28

- variant>amyloidosis
- <variant>fibrinoid swelling
- <variant>mucoid swelling
- <variant>hyalinosis
- <variant>lipidosis
- <question>Autopsy of a 54-year-old patient who died of cardiac decompensation revealed the following changes in tissues and organs: the thickness of subcutaneous fat at the navel level is 12 \(\triangle \) cm, body length is 175 cm, body weight is 130 kg; heart weight is 620 g, with massive yellowish growths on the incision, almost completely replacing the functional layer of the myocardium. Specify the type of dystrophy
- <variant>stromal vascular fatty dystrophy
- <variant>stromal vascular dysproteinosis (fibrinoid swelling)
- <variant>stromal vascular dysproteinosis (mucoid swelling).
- <variant>stromal vascular dysproteinosis (hyalinosis)
- <variant>stromal vascular dysproteinosis (amyloidosis)
- <question>Autopsy of a 58-year-old patient who died of cardiac decompensation revealed the following changes in tissues and organs: the thickness of subcutaneous fat at the navel level is 12 cm, body length is 165 cm, body weight is 153 kg; the heart weighs 700 g, with massive yellowish growths on the incision resembling the color of a tiger. Specify the type of dystrophy
- <variant>fatty degeneration
- <variant> fibrinoid swelling
- <variant>mucoid swelling
- <variant>hyalinosis

10.00

- <variant>amyloidosis
- <question>An autopsy of a deceased from stomach cancer with metastases revealed a pronounced body weight deficit. Macroscopic changes of organs in this dystrophy are
- <variant>internal organs are reduced in size, brown in color (due to the accumulation of lipofuscin).
- <variant>internal organs increase in size, brown in color (due to the accumulation of lipofuscin).
- <variant>pulverized obesity, small-drop obesity, large-drop obesity.
- <variant>accumulates a substance of predominantly hematogenic nature vascular hyaline.
- <variant>internal organs are reduced in size, gray (due to the accumulation of lipofuscin).
- <question>In the aortic wall of a 77-year-old patient who died of cardiac decompensation, "mushy" masses stained black with osmic acid are determined. Specify the type of dystrophy
- <variant>stromal vascular fatty dystrophy
- <variant>stromal vascular dysproteinosis (fibrinoid swelling).
- <variant>stromal vascular dysproteinosis (mucoid swelling).
- <variant>stromal vascular dysproteinosis (hyalinosis)
- <variant>stromal vascular dysproteinosis (amyloidosis)

Erwa edu.Kl

<question>A 32-year-old woman has been suffering from infectious and allergic vasculitis for several months. She died of a brain hemorrhage. The vascular wall of the microcirculatory bed is significantly thickened, homogeneous, eosinophilic, sharply CHIC-positive, the lumen of the vessels is narrowed. There is no metachromasia when stained with toluidine blue. The reaction to the fibrinoid is positive. Such a microscopic picture indicates an aggravation of the process and the skna.edu.kl skna.edu presence of skug edu k

KI SKNB. Edul. KI

skna.edu.kl

uma edu.Kl

adukt skna.edu.kt

K1 skma.edu.k1

ma adulki skina adu

- <variant>fibrinoid swelling
- <variant>of mucoid swelling
- <variant>sclerosis (fibrosis) skna.edu.kl
- <variant>hyalinosis

«Оңтүстік Қазақстан медицина академиясы» АҚ

SOUTH KAZAKHSTAN MEDICAL ACADEMY

АО «Южно-Казахстанская медицинская академия»

Department of Pathology and Forensic Medicine

63-11-2025

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Page 1 of 28

skna.edu.kl skna.edu.kl skna.e

variant>amyloidosis

,edu.X1

a.edu.X1

is equiti

ha.edu)

Maedu

<question>A 54-year-old man has been suffering from urolithiasis for 10 years. Operated on urgently. The left kidney is dramatically enlarged in volume. During the incision, 400 ml of reddish urine with a flake-like precipitate was poured out of the pelvis cavity, pH - alkaline. A coral-shaped, white-colored stone was removed. Stone in the pelvis of the left kidney, most likely by chemical composition skna.edu.kl skna.edu.kl skna.e

SKMA

ربادي

- <variant>oxalate
- <variant>xanthine
- <variant>phosphate
- <variant>cholesterol

- ...ne body

 ...ne body

 ...nyperglycemia.

 ...variant> hypercalcemia.

 ...variant> glucosuria.

 ...variant> bladder

 ...variant> heart

 ...variant> gulp

 ...variant> stomach

 ...variant> ossific

 ...variant> ossific

 ...variant> ossific

 ...variant> ossific

 ...variant> ossific Skina edu. Kl. skina edu. skina edu. kl. skina edu. kl. skina edu. kl. skina edu. kl. skina edu. skina edu. skina edu. kl. skina edu. kl. skina edu. kl. skina edu. skina edu

- Skna.edu.kl. skna.edu.kl. skna.edu.kl. skna.edu.kl. skna.edu.kl skna.edu.kl skna.edu.kl Sking edu. Kl. Sking

- aton of kidney stone formation
 ossification
 variant>organization
 variant>copen
 variant>copen
 variant>of calcium
 riant>hardware
 iant>sodium
 stion>The type of stones found in the 1.

skus egnik

sking.edu.kl

skina.edu.kl

sking.edu.ki

skma.edu.k2

na.edu.kl

skna edu.kl

skina edu.ki

skug egnik

skna edu.ki

skna.edu.kl

skna.edu.kl

skma edu.kl

skna edu.ki

skna.edu.kl skna.edu.kl

skma.edu.kl

skna edu.ki

skna.edu.kl

skna.edu.kl skna.edu.kl

skug edu.k

skna.edu.kl

skna.edu.kl

skina edu.ki

sking edu.kl

skna edu.kl

skna edu.ki

skna.edu.kl

skus edu.kr

Department of Pathology and Forensic Medicine

63-11-2025

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Page 1 of 28

- variant>urates
- <variant>coprolites
- <variant>phlebolites
- <variant>cholesterol stones
- <variant>bilirubin stones
- <question>Acquired porphyria occur when
- <variant>lead poisoning
- <variant>alcoholism

a.edu.ki

ia edu.

na.edu

Ma.edu

- <variant>diabetes mellitus
- <variant>blood transfusion
- ia edu. Kl skina edu. Kl <question>A group of diseases in which there is a hereditary insufficiency of metabolizing enzymes
 <variant>accumulation diseases
- <variant>tumors
- <variant>rheumatic diseases

- skug edn'ky <question>Complication of stone formation in the hollow organ
 <variant>perforation
 <variant>hydronephrosis skind edu.ki skna.edu.kl skna.edu.kl

- variant>sclerosis
 <question>The outcome of hydropic dystrophy
 <variant>focal colliquation necrosis
 <variant>hyaline drip dystrophy
 <variant>focal coam

 variant>focal coam

 variant> skna.edu.kl

- <variant>reverse development
- auystrophy

 anant>reverse development

 <question>Unfavorable outcome of necrosis

 <variant>purulent meltdown

 <variant>ossification

 :variant>ossification
- <variant>ossification
- <variant>organization
- <variant>encapsulation
- <variant>petrification
- <question>Pathological process in the myocardium that develops with coronary artery thrombosis skug enik
- <variant>infarction
- <variant>cyst
- <variant>gangrene
- <variant>sequester
- <variant>hyalinosis
- <question>The form of direct necrosis is
- <variant>toxic
- <variant>vascular
- <variant>allergic
- <variant>trophoneurotic
- Skina.edu.kl gar question>A type of necrosis that develops in a sensitized organism skna.edu.kl

АО «Южно-Казахстанская медицинская академия»

Department of Pathology and Forensic Medicine

63-11-2025

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

SKMA

Page 1 of 28

- variant>allergic
- <variant>vascular
- -- coaic <variant>trophoneurotic <variant>tro
- <question>A 68-year-old woman suddenly lost consciousness and woke up an hour later, she could not speak, move her right arm. Two months after computer tomography, there was a cystic formation in the left parietal lobe. Most likely occurred in the brain.
- <variant>colliquation necrosis
- <variant>coagulation necrosis
- <variant>fat necrosis
- <variant>karyolysis
- <variant>apoptosis
- <question>An 80-year-old patient was taken by ambulance to the hospital with a clinical picture of an "acute abdomen" and intestinal obstruction. During an emergency surgical operationlaparotomy-the loops of the small intestine are swollen, black and dark red in color, flabby consistency. Mesenteric arteries with atherosclerotic plaques, the lumen of some is obstructed by blood clots. The reason for this process is in the small intestine
- <variant>wet gangrene
- <variant>dry gangrene
- <variant>sequester
- <variant>noma

18.6411.

- <variant>bedsores
- <question>A 35-year-old patient died from acute renal failure syndrome as a result of massive uterine bleeding and posthemorrhagic shock. The autopsy revealed acute general anemia of the internal organs. The cause of acute renal failure
- <variant>necrotic nephrosis
- <variant>traumatic necrosis
- <variant>allergic necrosis
- <variant>coagulation necrosis
- <variant>colliquation necrosis
- <question>An elderly emaciated patient who had been in bed for a long time after suffering an acute violation of cerebral circulation, a 4×3 cm skin defect was found in the sacrum area. The underlying soft tissues are black, dull, structureless. Name the complication
- <variant>bedsores
- <variant>organization
- <variant>wet gangrene
- <variant>scarring
- <variant>purulent meltdown
- <question>On the section of the corpse of the deceased from an acute violation of cerebral circulation in the area of subcortical nuclei, a gray-yellow area of a mushy consistency was found Kr skma.edu.kr

c ahii ki skna edii.ki

skma.edu.kl skma.edu.kl

skna.edu.kl

adu.kl skna.edu.kl

skina.edu.kl

skna.edu.kl skna.edu.kl

ora adu. Kl skina edu. K

- Name the disease
- <variant>brain infarction evma edu.kl skna edu.kl

skna.edu.kl

- <variant>hemorrhage
- <variant>cvst
- <variant>full blood
- variant>stasis

ekna edu ki

«Оңтүстік Қазақстан медицина академиясы» АҚ

SOUTH KAZAKHSTAN MEDICAL ACADEMY

АО «Южно-Казахстанская медицинская академия»

Department of Pathology and Forensic Medicine

63-11-2025

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Page 1 of 28

skna edu.kl

maedu.Kl

skna.edu.kl

question>A 70-year-old man suffering from chronic cardiac decompensation was bothered by pain in his left lower limb. Suddenly, against the background of edema of the lower extremities, the skin of the left foot acquired a dark brown color, in places peeled off from the underlying tissues, exposing a dull dirty gray muscle mass. Name the disease

SKMA

- <variant>gangrene
- <variant>heart attack
- <variant>purulent inflammation
- <variant>scarring
- <question>On the section of the corpse of the deceased from an acute violation of cerebral circulation in the area of subcortical nuclei, a grav-vellow area of subcortical nuclei. circulation in the area of subcortical nuclei, a gray-yellow area of a mushy consistency was found. To establish the most common cause of the development of this process.
- <variant>thrombosis
- <variant>gangrene
- <variant>sequester
- <variant>bedsores
- <variant>noma

10.001

- <question>Accumulation of blood in tissues with violation of their integrity is:
 <variant>hematoma
- <variant>hemangioma
- <variant>full blood
- <variant>tamponade
- <variant>tamponade
 <variant>hematuria
 <question>The accumulation of blood in the tissues, without violating their integrity, is: skna.edu.kl
- <variant>hemorrhagic impregnation
- <variant>hemangioma
- <variant>bruise
- <variant>tamponade
- <variant>hematoma
- equestion>A pathological process in the myocardium that develops with coronary artery thrombosis
- <variant>infarction
- <variant>cyst
- <variant>gangrene

- **variant>outpouring of blood and its accumulation in tissues
 *variant>outpouring of blood into the environment
 *variant>outpouring of blood and its <variant>outpouring of blood and its accumulation in the pericardial cavity
- <variant>outpouring of blood and its accumulation in the pleural cavity
- <variant>outpouring of blood and its accumulation in the abdominal cavity
- <question>Elimination of the compressive factor on the artery leads to
- <variant>hyperemia after ischemia
- <variant>of collateral hyperemia
- <variant>angioedema
- <variant>of vacant hyperemia
- <variant>of inflammatory hyperemia
- question>The main mechanism of death in pulmonary trunk thromboembolism skna edu.kl skina.ed

АО «Южно-Казахстанская медицинская академия»

Department of Pathology and Forensic Medicine

SKMA

63-11-2025

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Page 1 of 28

- variant>pulmonocoronary reflex
- <variant>lung infarction
- <variant>pulmonary edema
- <variant>asphyxia
- <variant>brain edema
- <question>The patient was delivered with an acute illness. The patient has a feeling of pain throughout the body, chest compression, bleeding from the mouth and nose. During the survey, it became known that this patient performs diving work. With the rapid removal of it from under the water, such a situation arose. Diagnosis: Caisson disease. This is a type of hyperemia.
- <variant>vacant

s.edu.ki

ia.edu.k

- <variant>angioedema
- <variant>arteriovenous
- <variant>physiological
- <variant>collateral
- <question>At the autopsy of a 69-year-old man after a repeated heart attack, it was found that the anterior wall and the apex of the heart bulge out in a bag-like manner, the heart wall is dense, thinned, and there are dry matte crumbly blood clotts attached to the wall in the cavity of the left ventricle from the endocardium. The detected clots are
- <variant>dilated thrombus
- <variant>marantic thrombus
- <variant>globular thrombus
- <variant>postmortem clot
- <variant>thromboembolism
- <question>A patient of the hematology department was found to have a floating (unstable) thrombus of the ilio-femoral venous segment. What is the risk of its displacement from the place of fixation and migration through the bloodstream?
- <variant>pulmonary embolism
- <variant>carotid artery thromboembolism
- <variant>vertebral artery thromboembolism
- <variant>portal vein thromboembolism
- <variant>thromboembolism of the superior vena cava
- <question>A 22-year-old woman with uncomplicated pregnancy develops sudden shortness of breath with cyanosis and hypotension. She has a generalized seizure with a transition to a coma, Her condition does not improve for the next 2 days. Which of the following results are present in her peripheral pulmonary arteries? skula.edu.
- <variant>amniotic fluid
- <variant>platelet aggregates
- <variant>fat globules
- <variant>gas bubbles
- <variant>thromboembolism
- <question>The patient was admitted to the clinic with an attack of angina pectoris. After 3 days, sudden death occurred. The autopsy revealed atherosclerosis of the aorta, heart vessels and brain. skna.edu.kl skna.edu.kl

KI Skna.edu.ki

skna edu.kl

vm2 edu.Kl

skug edn'k

adu.kl skna.edu.kl

K1 skma.edu.k1

ma adu. Ka skina edu. K

- The focus of necrosis in the left ventricle of the heart. Name the pathological process
- <variant>myocardial infarction
- <variant>atherosclerosis of cerebral vessels
- <variant>coronary vessel stasis
- <variant>cerebral vascular edema
- <variant>brain hemorrhage Erwa edu.K

«Оңтүстік Қазақстан медицина академиясы» АҚ

MEDICAL ACADEMY

АО «Южно-Казахстанская медицинская академия»

skna.edu.kl

skna edu.ki

sking edu.kl

ma adu. Ki skina edu. K

Department of Pathology and Forensic Medicine

63-11-2025

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Page 1 of 28

question>The death of a patient suffering from acute myocardial infarction occurred on the 6th day from the onset of the disease. At the autopsy, 500 ml of liquid blood with clots were found in the pericardial cavity. Specify the morphological variant of myocardial infarction:

SKMA

رياري

- <variant>white with hemorrhagic corolla
- <variant>hemorrhagic
- <variant>ischemic
- <variant>mixed

10.00

- <variant>medianecrosis
- <question>A 23-year-old patient was admitted to the neurological department in a serious condition. Despite the treatment undertaken, the patient died. The autopsy revealed an extensive accumulation of blood in the subcortical nuclei of the right hemisphere of the brain. Determine the type of circulatory disorder in the brain.
- <variant>hematoma accumulation of blood in the tissue with violation of its integrity
- <variant>bleeding as a result of a wall rupture, possibly a congenital aneurysm
- <variant>the hemorrhage focus is rounded, the brain substance is destroyed in the focus
- <variant>a pseudocyst could develop in place of a hematoma
- <variant>blood clots were found on the surface of the aorta
- <question>A 70-year-old patient suffering from decompensated heart disease with pronounced edema of the lower extremities underwent surgery to remove an inflamed appendix. After the operation, chest pains and hemoptysis suddenly appeared on the 4th day, on the 6th day, when trying to get out of bed, the patient lost consciousness, his face turned blue and the patient died. At the autopsy, red crumbling masses were found in the deep veins of the lower leg, attached to the wall. Red crumbling free-lying masses were found in the lumen of the pulmonary artery. A dense dark red triangular-shaped focus was found in the lungs, covered with fibrin overlays on the pleura side. What is the name of the formation in the pulmonary artery?
- <variant>thromboembolism
- <variant>stagnation of blood
- <variant>cardiac arrest due to pulvmocoronary reflex
- <variant>hemorrhagic lung infarction caused by thromboembolism of the branches of the pulmonary artery
- <variant>blood clots
- <question>Microscopic examination revealed that clusters consisting of a large number of leukocytes, fibrin with an admixture of erythrocytes were found in the lumen of the vein. Determine the morphology of the thrombus

skna.edu.kl

vma edu.Kl

- <variant>mixed
- <variant>white
- <variant>red
- <variant>hyaline
- question>1Circulatory disorders associated with changes in blood filling
 variant>arterial fullness
 variant>stasis skug edn'k na.edu.kl
- <variant>arterial fullness
- <variant>thrombosis
- <variant>embolism
- <variant>disseminated intravascular coagulation
- skna.edu.kl skus egnik <uantility disserimented intravascular coagulation</p>
 <question>2Circulatory disorders associated with changes in blood filling sking edu.kl
- <variant>venous fullness
- variant>stasis

skug edn'k

Department of Pathology and Forensic Medicine Control and measuring tools (Technical specification and test tasks for midterm exam 1)

- variant>thrombosis

- Seminated intravascular coagulation
 question>3Circulatory disorders associated with changes in blood filling
 <variant>ischemia
 <variant>stasis

a.edu.ki

igedu!

na.edu

ma.edu

- <variant>thrombosis

- Auriant ausseminated intravascular coagulation
 question>1Circulatory disorders associated with damage to the vascular wall, changes in its permeability
 <variant>hemorrhage
 <variant>stasis sking.edu.
- <variant>hemorrhage
- <variant>stasis
- <variant>thrombosis
- <variant>embolism
- <question>2Circulatory disorders associated with damage to the vascular wall, changes in its permeability
 <variant>plasmorrhagia
 <variant>stasis
 <variant>thrombosis

- <variant>embolism
- <variant>disseminated intravascular coagulation
- <question>1Circulatory disorders associated with a violation of homeostasis and changes in the skma.edu.kl rheological properties of blood
- <variant>stasis
- <variant>hemorrhage
- <variant>plasmorrhagia

- <question>2Circulatory disorders associated with a violation of homeostasis and changes in the rheological properties of blood
 <variant>thrombosis skina.edu.kl rheological properties of blood
- <variant>hemorrhage
-стпогтпаде <variant>plasmorrhagia

- <question>3Circulatory disorders associated with a violation of homeostasis and changes in the rheological properties of blood
 <variant>dehydration
 <question>3Circulatory disorders associated with a violation of homeostasis and changes in the rheological properties of blood
 <variant>hemorrhage
 <variant>1

- <variant>dehydration
- <variant>ncmorrhagia
 <variant>edema
 <variant>dehydration
 <question>4Circulatory disorders associated with a violation of homeostasis and changes in the
 rheological properties of blood skna.edu.kl skna.e skna.edu.kl skina.edi skna.edu.k rheological properties of blood Kr skina edu. Kr skug egnik

skna.edu.kl

ymaedu.Kl

- <variant>embolism
- <variant>hemorrhage

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Page 1 of 28

ma adu.Kl skna.edu.Kl

variant>plasmorrhagia

«Оңтүстік Қазақстан медицина академиясы» АҚ

- <variant>edema
- <variant>dehydration
- nang skina edu.kt skina edu.kt th <question>Circulatory disorders associated with a violation of homeostasis and changes in the rheological properties of blood

SKMA

- <variant>embolism
- <variant>hemorrhage

a.edu.ki

la edul.

'Ug'egn

- variant>dehydration
 <question>Violation of the content of tissue fluid
 <variant>edema
 <variant>hemorrhage
 <variant>plasmorrh
 <variant> d dulky skna.edu.kl
- <variant>edema

- <variant>embolism
- <variant>thrombosis
- <question>Violation of the content of tissue fluid kua edu.Kr
- <variant>dehydration
- <variant>hemorrhage
- <variant>plasmorrhagia
- <variant>embolism
- <variant> thrombosis
- <question>A pathological process associated with the action of an extreme irritant, characterized by destructive changes in organs and tissues due to a violation of the central nervous system,
- metabolism, microcirculation system
- <variant>shock
- <variant>heart attack
- <variant>necrosis

- <question>Necrotic nephrosis, sometimes in the form of symmetrical cortical necrosis of the kidneys, with the development of acute renal failure
 <variant>shock kidney skus edukt kidneys, with the development of acute renal failure
- <variant>kidney inflammation
- <variant>glomerular necrosis
- <variant>edema of the kidney stroma
- <variant>white kidney
- <question>A 31-year-old man is in scuba diving and descends to a depth of 50 m. After 30 minutes he has a malfunction in his equipment and he quickly returns to the boat on the surface. Difficulty breathing develops within 5 minutes, with shortness of breath and chest pain, followed by severe headache and dizziness. After an hour, severe, painful myalgia and arthralgia develop. These symptoms decrease within 24 hours. Which of the following in the blood is the cause of the disease skna.edu.kl skna.edu.kl <variant>nitrogen gas bubbles

skina edu.kl

Kr Skug ednikr

skna.edu.kl skna.edu.k

was edulk

skna.edu.kl

ani.kl skna.edu.kl

skina.edu.kl

- <variant>fibrin clots
- <variant>fat globules
- <variant>platelet platelets
- erma edu.Kl skma edu.Kl pratetet platelets variant>torn atheromassage board

«Оңтүстік Қазақстан медицина академиясы» АҚ

SKMA ACADEMY

SOUTH KAZAKHSTAN MEDICAL

АО «Южно-Казахстанская медицинская академия»

Department of Pathology and Forensic Medicine

63-11-2025

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Page 1 of 28

skna.edu.kl

.K. skua.edu.k. skua.edu.k.

skna.edu.kl skna.edu.kl

ma adu.Kl skma.edu.Kl

question>A 23-year-old woman who had been suffering from fibrotic-cavernous pulmonary tuberculosis for several years. Suddenly there was pallor of the skin and mucous membranes, dizziness, lost consciousness. A few minutes later, death occurred. At the autopsy, the sharp pallor of the skin, visible mucous membranes, serous membranes, and tissues of internal organs attracted attention. The cavities of the heart and large vessels are empty, the spleen is small, wrinkled. Pinpoint and spotty hemorrhages were detected under the endocardium of the left ventricle of the heart (Minakov spots). Which circulatory disorder, of the following, was detected in this case?

- <variant>general acute anemia
- <variant>bleeding;

s.edu.k

,13.edu.

- <variant>hemorrhage;
- <variant>general chronic anemia;
- <question>A 32-year-old woman suffering from subacute septic endocarditis suddenly lost sight in her right eye. During the examination, the oculist found a sharp expansion of the lumen of the central artery of the eye and the presence of blood coagulation in it. The revealed changes are a manifestation of:
- <variant>thromboembolism

-ant>ot DIC syndrome

 <variant>of the sludge phenomenon

 <variant>blood stasis
 <meetion</pre> <question>At the autopsy of a 26-year-old man suffering from a heart defect for a long time, a triangular-shaped structureless dones bridge to the control of the contro triangular-shaped, structureless, dense, bright red, with clear borders, the base facing the pleura, was found in the lungs, against the background of a brown seal. This section is:
- <variant>hemorrhagic infarction
- <variant>hemorrhage
- <variant>local venous fullness

- <variant>local arterial fullness
 <variant>blood stasis
 <question>Patient C, 35 years old, lip cyanosis, oral mucosa and acrocyanosis are observed. In addition, there is rheumatism. What are these signs related to
- <variant>venous hyperemia
- <variant>hydrothorax
- <variant>arterial hyperemia
- <question>A 47-year-old patient has been suffering from rheumatism with mitral valve lesion (stenosis) since childhood. Revealed circulatory disorders in the patient

skug'egn'ky

skna edu.kl

Kr skug edn'kr

skna edu.kl

uma edulki

- <variant>chronic general venous fullness
- <variant>anemia
- <variant>stasis
- <variant>acute general venous plethora
- <variant>arterial fullness
- aduki skraedu.ki skraedu.ki <question>With chronic venous fullness in the kidneys develops skinaedi

erwasqu.Kl

- <variant>cyanotic induration
- <variant>congestive sclerosis
- <variant>diffuse hemosiderosis
- <variant>muscat cirrhosis
- <variant>brown seal

SOUTH KAZAKHSTAN SKMA

MEDICAL ACADEMY

امالر АО «Южно-Казахстанская медицинская академия» «Онтустік Қазақстан медицина академиясы» АҚ

Department of Pathology and Forensic Medicine

63-11-2025

Control and measuring tools (Technical specification and test tasks for midterm exam 1) skma.edu.kl Page 1 of 28

skna.edu.kl

skna.edu.kl

SKNa. edu. Kl. SKNa. edu. Kl.

- question>At the heart of the caisson disease is an embolism
- <variant>gas

- variant>microbial
 <question>Type of embolism in malignant tumor
 <variant>tissue
 <variant>microbial
 <variant>fat

a.edu.K

ia edul.

- <variant>thromboembolism
- skna.edu.kl ma.edu.kl skma.edu.kl ...or

 ...or

 variant>thromboembolism

 question>Complication of deep vein thrombosis of the lower leg

 variant>pulmonary artery trunk thromboembolism

 variant>cerebral infarction

 variant>myocardial infarction

 variant>intestinal gangrene
 question>Source cr
 /ariant>1. SKMa edu. K. SKMa edu. K. SKMa edu. K. skna.edu.kl skna.edu.kl SKNa. edu. Kl. SKNa. edu. Kl.

- <variant>blood clots in the veins of the lower extremities
- <variant>blood clots in the veins of the lungs
- <variant>blood clots on the flaps of the mitral valve
- <variant>blood clots in the portal vein
- <variant>blood clots on the aortic wall
- kwa edu.ki skwa edu.ki skwa! <question>A 56-year-old man with chronic coronary heart disease for 20 years. He died of chronic heart failure (decompensation of the heart). On autopsy: serous, meninges and mucous cyanotic. Pronounced edema of the dermis and subcutaneous tissue, hydrothorax, hydropericardium, ascites (anasarca). The kidneys are in a state of cyanotic induration, the lungs are in a state of brown induration. "Muscat" ("cardiac") cirrhosis was detected in the liver. Name the macroscopic changes in this pathology
- <variant>general chronic venous fullness
- <variant>local acute arterial fullness
- <variant>general acute arterial fullness
- <variant>general acute venous fullness
- <variant>local chronic venous fullness
- <question>A 32-year-old man was in a car accident and suffered fractures of the right femur and lower leg and left humerus. The fractures were surgically repaired. He was in a stable condition for 2 days, but then suddenly developed severe shortness of breath. Specify the cause of acute
- respiratory failure
- <variant>fat embolism
- <variant>cardiac tamponade

- <variant>hemothorax
- <variant>cardiac tamponage
 <variant>pulmonary edema
 <variant>pulmonary infarction
 <variant>hemothorax
 <question> Venous hyperemia is an increased blood filling of an organ or tissue due to a decrease
 (difficulty) in blood outflow, while blood flow: skma.edu.kl skma.e an sking edu.kl (difficulty) in blood outflow, while blood flow skna.edu.kl

uma edu.Kl

- <variant>saved or slightly reduced
- <variant>does not change

skna.edu.kl skni

skma.edu.kl

skna.edu.kl

skna.edu.kl

skna.edu.kl

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Page 1 of 28

skna.edu.kl

iug eqnix

skna.edu.kl skna.edu.kl

skus egnik

skna.edu.kl

skna.edu.kl

- variant>increased
- <variant>is difficult
- <variant>corresponds to blood flow

«Оңтүстік Қазақстан медицина академиясы» АҚ

<question>General venous fullness (acute and chronic) is a manifestation of the syndrome skna.edu. sking.edu.kl

kwa egniky

SKMA

- <variant>heart failure
- <variant>hemorrhagic
- <variant>of coronary

a.edu.K

ig.edu.

na.edu

Ma.edu

- <variant>inflammatory
- <question>"Hairy heart" is observed when
 <variant>croup inflammation

- skna.edu.kl

- ma.edu.kl sknaedl

skna.edu.k

- <variant>histolysis
- <variant>dystrophy

- <question>Type of exudative inflammation on the serous membrane in acute phlegmonous appendicitis:
 <variant>fibrinous
 <variant>serous hemorate

- <variant>serous-catarrhal
- <variant>purulent
- <variant>putrid
- <question>The formation of a cavity in the tissue with purulent inflammation occurs due to
 <variant>histolysis
- <variant>histolysis
- <variant>full blood
- <variant>edema
- <variant>ischemia
- <variant>injuries
- <question>Types of fibrinous inflammation on the mucous membranes are distinguished by

vers edu.K

- <variant>necrosis depths
- <variant>number of vessels
- <variant>features of the organ stroma
- <variant>the duration of the disease
- skna.edu.kl question>A type of exudative inflammation in the pleural cavity
 <variant>empyema

SKMA

MEDICAL ACADEMY

«Оңтүстік Қазақстан медицина академиясы» АҚ АО «Южно-Казахстанская медицинская академия»

Department of Pathology and Forensic Medicine

63-11-2025

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Page 1 of 28

- variant>phlegmon
- <variant>abscess
- <variant>carbuncle
- <variant>boil
- <question>The patient underwent a pulmonectomy for lung cancer. Inflammation and remnants of suture material were found in the bronchial stump. Characteristics of inflammation
- <variant>granulomatous around a foreign body
- <variant>exudative
- <variant>granulomatous with specific signs
- <variant>granulomatous immune
- <variant>diffuse productive
- <question>A characteristic focus of inflammation was found in the liver of a patient with a tertiary period of syphilis. Choose the right position
- <variant>there is caseous necrosis in the center of the lesion
- <variant>completely resolves during recovery
- <variant>is localized only in the liver
- <variant>there are completely no vessels in the hearth
- <variant>neutrophils predominate among the inflammatory cells
- <question>In the occipital region of the head, a 16-year-old boy had a sharply painful area of skin with tissue tension, difficulty in neck movements. In the general blood test, an increase in the number of neutrophilic leukocytes. On examination, the skin bulges, is sharply hyperemic, a yellowish area in the form of a deepened rod is determined in the center. The nature of inflammation
- <variant>purulent
- <variant>hemorrhagic
- <variant>diphtheria
- <variant>catarrhal
- <question>A 38-year-old woman, as a result of a burn, blisters with cloudy liquid contents and sharp hyperemia of surrounding tissues appeared on the skin of her face. The interest of the liquid in the liquid liquid in the lumen of the bubbles. The nature of inflammation
- <variant>serous
- <variant>hemorrhagic
- <variant>diphtheria
- <variant>catarrhal
- <variant>mixed
- <question>A 68-year-old man had suffocation last week. During physical examination, the body temperature is 38.3 ° C. With percussion, dullness over the left lung. During thoracocentesis, 800 ml of cloudy yellow fluid was removed from the left pleural cavity. UAC: a large number of polymorphonuclear leukocytes, neutrophils 98% and lymphocytes 2%. Tissue autolysis products. There are gram-positive cocci in the pleural fluid. Name the fluid extracted from the pleural cavi
- <variant>purulent exudate
- <variant>chronic inflammation
- <variant>edema
- <variant>fibrinous inflammation
- <variant>abscess
- <question>Complex, local vascular-tissue (mesenchymal) protective-adaptive reaction of the body to the action of a pathogenic stimulus. skna.edu.kl to the action of a pathogenic stimulus

skug egn

skus edu.ki

skma.edu.kl

skna.edu.kl

skug'egn'ky

skna.edu.kl skna.edu.kl

skna.edu.kl

skna edu.ki

skna edu.kl

skug'egn'ky

skna edu.ki

skna.edu.kl skna.edu.kl

sking.edu.kl

uma edu.Kl

skna.edu.kl skna.edu.kl

skina.edu.kl

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

variant>inflammation

edu.k1

Klug.edi.

a.edu.kl

is equit

Mg.edu.

Ma.edu

<variant>immune response

«Оңтүстік Қазақстан медицина академиясы» АҚ

- <variant>hypersensitivity
- <variant>regeneration
- <variant>adaptation
- <question>The first phase of inflammation
- <variant>alteration
- <variant>exudation

- variant>adaptation

 <question>The second phase of inflammation

 <variant> exudation

 <variant> alterations

 <variant> skma.edu.kl

- <variant>proliferation
- <variant>regeneration
- <variant>adaptation
- maedu.kl skmaedu.kl <question>In a man suffering from an abdominal aortic aneurysm, a rupture of the aorta led to massive acute blood loss. Cause of death
- <variant>hypovolemic shock
- <variant>cerebral edema
- <variant>pulmonary edema
- <variant>iron deficiency anemia
- <variant>myocardial infarction
- <question>At the autopsy of the corpse, a lot of white-yellow bumps the size of a millet grain were found in the lungs and liver. Specify the diseases that are characterized by the formation of a specific granuloma
- <variant>syphilis, leprosy, tuberculosis
- <variant>flu, tuberculosis, syphilis
- <variant>syphilis, tuberculosis, histiocytosis

- skna edu.kl

- skna.edu.kl adukt skna.edu.kt
- <variant>neutrophils
- <variant>lymphocytes
- <variant>monocytes

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Page 1 of 28

skna.edu.kl

skina edu.ki

skna edu.ki

skna.edu.kl

edu.Kl skna.edu.Kl

skna.edu.kl

skna.edu.kl

ing edu.K

skna.edu.kl

skna.edu.kl

skna.edu.kl

skna.edu.kl

skna.edu.kl

skug egnik

ma ahi.Kl skma.edu.Kl

skna edu.kl

skna.edu.kl

skna edu.ki

kus equiky ekus equiky

- variant>labrocytes
- <variant>histiocytes
- <question>According to the predominance of exudate components, inflammation is distinguished

a.edu.ki

ig edul.

na.edu

Ma.edu

- <variant>neutrophilic
- <variant>neutrophilic
 <question>According to the predominance of exudate components, inflammation is distinguished
- <variant>hemorrhagic
- <variant>exudative
- <variant>proliferative

- <question>Type of fibrinous inflammation of serous membranes
 <variant>croup
 <variant>diphtheric
 <variant>phlegmon

- variant>catarrhal
 <question>Productive inflammation is characterized by
 <variant>by cell reproduction
 <variant>formation of purulent exudate
 <variant>formation of fibrinous exudate
 <variant>reproduction
 question>t <variant>reproduction of epithenal elements
 <question>Liquid containing up to 2% protein, few cells in the pleural cavity, reducing lung function
- <variant>serous exudate
- <variant>purulent exudate
- <variant>granuloma
- <variant>blood and plasma
- <variant>serous transudate
- skna.edu.kl <question>Morphological substrate of fibrinous inflammation skma.edu.kl
- <variant>film
- <variant>abscess
- <variant>phlegmon
- <variant>plaque
- <variant>granuloma
- <question Fibrinous film is easily removed when</pre> skna edu.ki
- variant>croup inflammation
- <variant>granuloma

skna.edu.kl

skna.edu.kl skna.edu.kl

skna.edu.kl

skna.edu.kl

skna.edu.kl

skna.edu.k2

skna.edu.kl

adu.Kl skna.edu.Kl

skug egnik

skina.edu.kl

skna.edu.kl

skna edu.kl

skna.edu.kl

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

SKMA

Page 1 of 28

variant>diphtheria inflammation

«Оңтүстік Қазақстан медицина академиясы» АҚ

- <variant>tissue fibrosis
- <question>Complete overgrowth of the serous cavity with connective tissue is
 <variant>perforation
- <variant>penetration
- <variant>ossification

- <variant>pus

a.edu.ki

is equit

na.edu.

Ma.edu

skina.edu.kl

- <variant>fibrin
- <variant>granuloma
- <variant>proliferate
- <variant>blood
- <variant>blood
 <question>The type of inflammation characterized by histolysis is the secondary breakdown of
 tissue in any organ and tissue
 <variant>purulent
 <variant>fibrinous
 <variant>granulomatous
 <variant>proliferative
 <variant>hemorrhagic
 <question>Cloudy liquid, thick, yellow-green color
 <variant>pus skna.edu.kl skna.edu.kl

- skina edu.kl skina edu.kl skna.edu.kl
- <variant>pus
- <variant>fibrin
- <variant>granuloma
- <variant>proliferate
- <variant>blood
- <question>A cavity filled with pus ma.edu.kl
- <variant>abscess
- <variant>phlegmon
- <variant>granuloma
- <variant>proliferate
- <variant>cyst
- <question>Spilled purulent inflammation spreading between tissues, impregnating, delaminating skma.edu.k them, accompanied by their lysis

skna.edu.kl

skma.edu.kl

skna.edu.kl

na.edu.kl

- <variant>phlegmon
- <variant>sequester
- <variant>granuloma
- <variant>abscess
- <variant>gangrene
- <question>Phlegmon spreads along the course of muscles, fascia, nerves, subcutaneous tissue, skna.edu.kl skna.edu.kl skina.edi Skug'sqn'ky blood vessels, it is

skna edu.kl

Kr skug squikr

skna.edu.kl

vma edu.Kl

- <variant>pus
- <variant>fibrin
- <variant>granuloma
- <variant>proliferate

Department of Pathology and Forensic Medicine

63-11-2025

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Page 1 of 28

- variant>blood
- <question>Purulent inflammation of the abdominal organs in the bladder, pleural cavities, gallbladder, vermiform process

SKMA

- <variant>empyema
- <variant>sequester
- <variant>granuloma
- <variant>abscess

19.691

- <variant>gangrene
- <question>1A characteristic focus of inflammation was found in the liver of a patient with a tertiary period of syphilis. Choose the right position
- <variant>there is caseous necrosis in the center of the lesion
- <variant>completely resolves during recovery
- <variant>is localized only in the liver

- insufficient humoral immunity
- <variant>no T-dependent zones <variant>lymphoid tissue atrophy
- <variant>lymphoid tissue hyperplasia
- <variant>plasmatization
- <question>What type of inflammation is characteristic of delayed hypersensitivity reactions
- <variant>chronic immune
- <variant>hyperplastic
- <variant>granulomatous

- <variant> granufoliations
 <variant> fibrinous
 <variant>acute immune
 <question> The process of reducing the volume of the thymus begins with 5-8 years of life and ends
 by about 25 years
 <variant> physiological involution
 <variant> pathological involution
- <variant>pathological involution
- <variant>atrophy
- <variant>hyperplasia
- <variant>lymphoid hyperplasia
- <question>A 6-year-old patient underwent appendectomy; name the changes in the thymus after sking ednik surgery
- <variant>accidental involution
- <variant>pathological involution
- <variant>atrophy
- <variant>hyperplasia
- <variant>lymphoid hyperplasia
- <variant</p>
 yunphold hyperplasia
 <question</p>
 Congenital anomalies of the thymus associated with underdevelopment and improper skna.edu.kl development of the organ

adu.kl skna.adu.kl

was edu.K

skna.edu.kl

- <variant>aplasia, hypoplasia and dysplasia
- <variant>hypertrophy, atrophy, involution
- variant>dystrophy, lymphoid hyperplasia
- variant>dysplasia, lymphoid hyperplasia

SOUTH KAZAKHSTAN

MEDICAL ACADEMY

«Оңтүстік Қазақстан медицина академиясы» АҚ Department of Pathology and Forensic Medicine

АО «Южно-Казахстанская медицинская академия» 63-11-2025

skus edn'k

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Page 1 of 28

- variant>dystrophy, lymphoid hypoplasia
- <question> With aplasia the thymus
- <variant>is missing
- <variant>increased
- <variant>slightly reduced
- <variant>atrophied

a.edu.k

18.6411

- <variant>hypertrophied
- <question>There is no production of thymic hormones. The thymus is significantly reduced in size there is no division into cortical and medullary matter, the number of lymphocytes is reduced
- <variant>hypoplasia and dysplasia
- <variant>hypertrophy, atrophy, involution
- <variant>dystrophy, lymphoid hyperplasia
- <variant>dysplasia, lymphoid hyperplasia
- <variant>dystrophy, lymphoid hypoplasia
- <question>The patient was diagnosed with sepsis for 8 months, severe atrophy of the cerebellar hemispheres with dystrophy of the ganglion and granular layers, underdevelopment of the genitals, multiple organ failure, infantilism. Morphologically, dysplasia phenomena were detected in the thymus, the lobules are represented by very small islands of thymic tissue without Gassal bodies, hypoplasia of T-zones of lymph nodes and spleen. Name the syndrome
- <variant>Louis Bar
- <variant>of McKusick
- <variant>Di-giorgi
- <variant>Bruton
- <variant>Vesta
- <question>The patient has had eczema with suppuration in the skin for 7 months, abscesses and empyema in other organs due to a defect in the bactericidal function of phagocytes; a history of repeated infectious lesions of the lungs, lymph nodes, liver, and spleen. Name the disease
- <variant>chronic granulomatous disease
- <variant>Louis-Bar syndrome
- <variant> McKusick syndrome
- <variant> Di-Giorgi syndrome
- <variant> Bruton's syndrome
- <question>A 1-year-old patient constantly develops purulent, pyogenic infections associated with a violation of the bactericidal activity of leukocytes and neutropenia. Clinically combined with albinism and shortening of limbs. Name the syndrome

skna.edu

Skus equiks

ahi.kl skna.edu.kl

K1 skma.edu.k1

ma adu. Ki skina edu.

- <variant>Chediaka Higashi
- <variant>Louis Bar
- <variant>of McKusick
- <variant>Di-giorgi
- <variant>Bruton
- <question>Primary immunodeficiency syndrome, characterized by the development of recurrent "cold" abscesses (no inflammatory reaction) caused by Staphylococcus aureus; associated with an skna.edu.kl skna.edu.kl skna.edu. autosomal recessive defect of neutrophil leukocytes. Name the syndrome

skug edu k

erwa edu.ki

C adul.Kl

skug egnik

ks skug edniks

skna edu.kl

vm2 edu.Kl

- <variant>of Jacob
- <variant>Chediaka Higashi
- <variant>Louis Bar
- <variant>of McKusick skna.edu.kl
- <variant>Di-giorgi

«Оңтүстік Қазақстан медицина академиясы» АҚ

SOUTH KAZAKHSTAN MEDICAL ACADEMY

АО «Южно-Казахстанская медицинская академия»

Department of Pathology and Forensic Medicine

63-11-2025

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Page 1 of 28

skna.edu.kl

ma adu. Kl skina. edu. k

skina.edu.kl skina.edu.kl

question>Thymus depletion is a decrease in mass, cellularity due to migration and destruction of cellular elements due to: stress, infections, intoxication, trauma, treatment with glucocorticoids

SKMA

- <variant>accidental involution
- <variant>hypertrophy, atrophy, involution
- <variant>dystrophy, lymphoid hyperplasia
- <variant>dysplasia, lymphoid hyperplasia
- <variant>dystrophy, lymphoid hypoplasia
- <question>The thymus tissue is replaced by fatty, connective tissue, petrification of the Ghassal bodies is observed, a sharp decrease in weight, secondary immunodeficiency develops with prolonged infections, immunosuppressive, antibacterial, hormonal therapy. Name the morphological changes of the thymus
- <variant>atrophy

a.edu.ki

18.6411.

na.edu

maedli

- <variant>hyperplasia
 <question>Hyperplasia of the thymus with lymphoid follicles is characteristic of
 <variant>autoimmune diseases
 <variant>of accidental involution
 <variant>hypertrophy, atrophy
 <variant>dystrophy
 <variant>dystrophy
 <variant>dysplasia
 <question>IIf there <question>11f there is an expansion of intra-lobular spaces in the thymus, B-lymphocytes, plasmocytes accumulate in them, lymphoid follicles appear, as in lymph nodes. This is secondary damage to the thymus when
- <variant>autoimmune diseases
- <variant>of accidental involution
- <variant>hypertrophy, atrophy
- <variant>dystrophy
- <variant>dysplasia
- <question>If there is an expansion of intra-lobular spaces in the thymus, B-lymphocytes, plasmocytes accumulate in them, lymphoid follicles appear, as in lymph nodes. This is secondary damage to the thymus when
- <variant>autoimmune diseases
- <variant>of accidental involution
- <variant>hypertrophy, atrophy
- <variant>dystrophy
- <variant>dysplasia
- <variant>dysplasia
 <question>With antigenic stimulation (sensitization) of the body. When an antigen enters the body, the humoral link of immunity is strained and the production of immunoglobulins - antibodies is increased. Accordingly, hyperplasia develops in the peripheral lymphoid organs:

.KZ skma.edu.kZ skma.edu.

skma.edu.kl skma.edu.kl

skna.edu.kl

ahi.kl skna.edu.kl

K1 Skma.edu.k1

<variant>non-specific reactive e ahiiki skina edu.ki skina!

skna.edu.

skna edu.kl

- <variant>accidental
- evma.edu.kl skna.edu.kl <variant>hypertrophic
- <variant>dystrophic
- <variant>dysplastic

ekna edu.kl

SOUTH KAZAKHSTAN SKMA MEDICAL

ACADEMY

АО «Южно-Казахстанская медицинская академия»

Department of Pathology and Forensic Medicine

63-11-2025

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Page 1 of 28

- question>Patient 14 was diagnosed with acute tonsillitis, the examination revealed an increase and soreness of regional lymph nodes (submandibular, cervical). Name the changes in the regional lymph nodes
- <variant>nonspecific lymphadenitis

«Оңтүстік Қазақстан медицина академиясы» АҚ

- <variant>specific lymphadenitis
- <variant>granulomatous reaction
- <variant>lymphoid hyperplasia
- <variant>septic hyperplasia
- <question>A 15-year-old patient has acute tonsillitis. Enlargement and soreness were detected in the neck and submandibular lymph nodes
- Name the changes in the regional lymph nodes
- <variant>nonspecific lymphadenitis
- <variant>specific lymphadenitis
- <variant>granulomatous reaction
- <variant>lymphoid hyperplasia

ia.edu

- question>Lymph nodes are full-blooded, there are many plasmoblasts and plasmocytes, macrophages in the cortical substance, sinuses, germinal centers of fall.
 question>Lymph nodes are full-blooded, there are many plasmoblasts and plasmocytes, macrophages in the cortical substance, sinuses, germinal centers of fall.
- <variant>nonspecific lymphadenitis
- <variant>specific lymphadenitis
- <variant>granulomatous reaction
- <variant>lymphoid hyperplasia
- <variant>septic hyperplasia
- <question>In infectious diseases caused by banal pathogenic microflora (Staphylococcus
- Streptococcus), regional change of lymph node is
- <variant>nonspecific lymphadenitis
- <variant>specific lymphadenitis
- <variant>granulomatous reaction
- <variant>lymphoid hyperplasia
- <variant>septic hyperplasia
- <question>Hypersensitivity of the immediate type (allergy) proceeds morphologically as skna.edu.kl inflammation
- <variant>acute immune
- <variant>specific
- <variant>non-specific
- <variant>chronic immune
- <variant>delayed immune
- <question>If alterative changes in the walls of blood vessels, the main substance, fibrous structures plasma impregnation, mucoid and fibrinoid swelling, fibrinoid necrosis, formation of fibrinoushemorrhagic exudate (neutrophils, fibrin, erythrocytes) develop rapidly, a weak reprative reaction, this is inflammation
- <variant>acute immune
- <variant>specific
- <variant>non-specific
- <variant>chronic immune
- <variant>delayed immune
- <question>With delayed hypersensitivity, lymphocyte and macrophage proliferation reactions oredominate. Name the type of inflammatory reaction predominate. Name the type of inflammatory reaction sking.edu.

SOUTH KAZAKHSTAN MEDICAL **ACADEMY**

АО «Южно-Казахстанская медицинская академия»

Department of Pathology and Forensic Medicine

63-11-2025

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

SKMA

Page 1 of 28

- variant>chronic immune
- <variant>specific
- <variant>non-specific
- <variant>acute immune
- <variant>delayed immune
- <variant>delayed immune
 <question>The appearance of reactions of the immune system to normal antigens of its own tissues is observed in diseases
- <variant>autoimmune
- <variant>specific
- <variant>of non-specific
- <variant>infectious
- <variant>viral

is equi

- <question>Morphologically, the graft rejection reaction is manifested by infiltration in the tissue transplant zone by
- transplant zone by
- <variant>killer T-lymphocytes
- <variant>T-lymphocytes suppressors
- <variant>by helper T-lymphocytes and
- <variant>eitrocytes
- <variant>eosinophils
- ¬anaut>eosmophils

 question>The transplant rejection reaction is manifested by infiltration in the area of tissue ransplantation by

 ¬variant>histiocytes

 ¬variant>T-lymphocytes transplantation by
- <variant>histiocytes
- <variant>T-lymphocytes suppressors //
- <variant>helper T-lymphocytes and
- <variant>eitrocytes
- <variant>eosinophils
- <question>Adaptive process in the form of restoration of structural elements of tissue instead of dead
- <variant>regeneration
- <variant>compensation
- <variant>adaptation
- <variant>metaplasia
- <variant>dysplasia
 <question>Restoration of the disturbed structure of organs and tissues is
- <variant>regeneration

- <variant>dysplasia
 <question>Adaptive process in the form of restoration of structural elements of tissue instead of destroyed elements, it is
 <variant>regeneration
 <variant>adaptation
 <variant>metaplasia
 :variant>dysplasia

- variant>dysplasia
 <question>Complete regeneration is carried out by cellular regeneration, while a defect in an organ or tissue is replaced by an identical tissue, this is

skma.edu.kl skma.edu.kl

skus edn'y

skna.edu.kl skna.edu.kl

skina edu.ki

- variant>restitution
- <variant>proliferation
- <variant>restoration
- <variant>adaptation
- <variant>metaplasia
- <question>Minor damage to cartilage tissue can be completely regenerated by proliferation of suprachondral chondroblasts and their synthesis of the main substance of cartilage, chondroblasts then differentiate into mature cartilage cells, this is regeneration

SKMA

- <variant>full
- <variant>incomplete
- <variant>complete
- <variant>partial
- <variant>substitution
- <question>The epithelium of the skin regenerates in full, as it has a high ability to proliferate due to the cambial cells of the epidermis, they are localized in the layer
- <variant>basal
- <variant>spiky

ia.edu.

lug egn

- <variant>brilliant
- <variant>horn
- <variant>keratinizing
 <question>The epithelium of the skin regenerates in full, as it has a high ability to proliferate due to the cells of the epidermis call these cells. SKULG EGIT KY the cells of the epidermis, call these cells ma.edu.kl
- <variant>cambial
- <variant>spiky
- <variant>brilliant
- <variant>horny
- <variant>keratinizing
- <question>. The area of damaged liver tissue is replaced by a scar, in other parts of the organ there is an active formation of new hypertrophied cells with hyperplasia of organelles - by type skna.edu.kl skna.edu.kl
- <variant>regenerative hypertrophy

- and and a seed liver tissue

 | June | Sking edu. K. sking edu. K. sking edu. K. sking edu. K. 3.edu.kl skma.edu.kl variant>vascular endothelium
 question>The complete restoration of kidney tissue occurs due to the proliferation of preserved cells, this is

63-11-2025

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Page 1 of 28

skus edu.ki

skna.edu.kl

adu. Klasedu. Klasedu

skna.edu.kl skna.edu.kl

skna.edu.kl

ma adu.Kl skma.edu.Kl

skna.edu.kl

- variant>nephrocytes
- <variant>epithelium
- <variant>mesangiocytes
- <variant>podocytes
- <variant>labrocytes
- <question>If the tubular membrane and vascular glomerulus are damaged, the nephron is replaced by connective tissue, and the surrounding nephrons undergo hypertrophy. Name the type of hypertrophy
- <variant>regenerative
- <variant>adaptive

a.edu.ki

ia edul.

na.edu

maedu

- <variant>dysplastic
- skna.edu.kl skna.edu.kl

- <question>When a part of the lung is removed, hypertrophy and hyperplasia of parenchymal elements occur, while cirrhotic changes with excessive formation of connective ties... deformities are possible. Name the type of regeneration elements occur, while cirrhotic changes with excessive formation of connective tissue and lung deformities are possible. Name the type of regeneration <variant>atvnical
- <variant>partial
- <variant>substitution
- <variant>dysplastic
- <variant>full
- <question>The brain regenerates according to the type of hypertrophy of the preserved elements of the brain this is the brain, this is

skna.edu.kl

was edulk

- <variant>neurocytes

- SKMa edu.Kl. skma edu.Kl. skna.edu.kl skna.edu.kl skna.edu.kl

- <variant>infiltrative growth, cellular atypism
- <variant>expansive growth, cellular atypism
- <variant>presence of metastases, recurrence
- <question>A malignant tumor is characterized by
- <variant>cellular atypism, infiltrating growth

SOUTH KAZAKHSTAN MEDICAL

ACADEMY

АО «Южно-Казахстанская медицинская академия»

«Онтустік Қазақстан медицина академиясы» АҚ Department of Pathology and Forensic Medicine

63-11-2025

Control and measuring tools (Technical specification and test tasks for midterm exam 1)

Page 1 of 28

skina.edu.kl

skna.edu.kl skna.edu.kl

skna.edu.kl skna.edu.kl

ora adu. Kl skma. edu. kl

skna.edu.kl

- cvariant>tissue atypism, expansive growth
- <variant>invasive growth, absence of metastases
- <variant>expansive growth, does not recur
- <variant>does not metastasize, does not relapse
- <question>Retrograde lymphogenic metastases of stomach cancer are more likely to develop in

SKMA

- <variant> ovaries, pararectal tissue

a.edu.ki

is equiti

Mg.edu.

Mg.edu

- <variant> ovaries, pararectal tissue
 <variant>liver, spleen
 <variant>brain, lungs
 <variant>intestine, mesenteric lymph nodes
 <variant>bone marrow, subclavian lymph nodes
 <question>The earliest pathway of metastasis in malignant tumors from the epithelium SKWa.ec
- <variant>lymphogenic
- <variant>hematogenic
- <variant>perineural
- <variant>implantation
- <variant>mixed
- <question>Histological examination of ovaries removed due to large uterine fibroids revealed complexes of atypical large cells with an eccentric nucleus, giving a positive CHIC reaction, resembling "rings" in shape. Specify the most frequent localization of the primary tumor, which is characteristic of this metastasis
- <variant>stomach cancer
- <variant>bronchial cancer
- <variant>lung cancer
- <variant>bowel cancer
- <question>A 14-year-old patient was diagnosed with fibrosarcoma of the soft tissues of the thigh, confirmed morphologically. An operation was performed to remove the tumor, followed by X-ray and chemotherapy. Within a year, a recurrence of the tumor with widespread metastases developed.

Histological type of tumor

- <variant>mesenchymal
- <variant>epithelial
- <variant>neuroectodermal

July Sking edu. K. sking edu. برورسوrmal برورسور variant>melanin-forming skna.edu.kl skna.edu.kl from the Department of the Department skina. edu. ki skina. edu. ki skina. edu. Skina adu.kl skina adu.kl skina adu.kl ahiki skina edu.ki skina edu.ki skna.edu.kl skna.edu.kl HILK SKINA Edu. KZ SKINA Edu. KZ

ОŃTÚSTIK-QAZAQSTAN MEDISINA AKADEMIASY
«Онтустік Қазақстан медицина ақадемиясы» АҚ
Department of Pathology and
Control and measuring tools (Та SOUTH KAZAKHSTAN
MEDICAL
ACADEMY sking edu ki SKING SKU18.ed SOUTH KAZAKHSTAN
MEDICAL
ACADEMY
AO «Южно-Казахстанская медицинская академия»
Medicine SKIP . SKMA Super adult of the super adult o ربان sking.edu.kt Department of Pathology and Forensic Medicine 63-11-2025 Page 1 of 28 The state of the s The state of the s Strice adult, st U.K. Stora adul.K. Stora adul. 2 straaadu. Katraadu. Katr 11.12