1. A patient with femoral neck fracture, who for a long time had to remain in bed in a forced (supine) position, has developed dark-brown lesions along the backbone; soft tissues are swollen, in the areas of maceration there is a foul-smelling liquid. Name the clinicopathologic type of necrosis:

A. Bedsore
B. Dry gangrene
C. Sequestrum
D. Infarction
E. Coagulation necrosis

2. Healthy parents with unremarkable family history have the child with multiple developmental defects. Cytogenetic analysis revealed the trisomy 13 in the somatic cells (Patau syndrome). What phenomenon has caused the defects?

A. Abnormal gametogenesis
B. Chromosomal mutation
C. Somatic mutation
D. Recessive mutation
E. Dominant mutation

3. In the surgical ward, the dressing material was undergoing sterilization in an autoclave. Through an oversight of a nurse the mode of sterilization was changed and the temperature in the autoclave reached only 100°C instead of the due 120°. What microorganisms can stay viable under these conditions?

A. Bacilli and Clostridia
B. Salmonella and klebsiella
C. Staphylococci and streptococci
D. Corynebacteria and mycobacteria
E. Mold and yeast fungi

4. A 12-year-old patient has white nonpigmented spots on the skin. The spots appeared after the patient became 10 years old, and they constantly grow. This spots appeared due to the lack of the following skin cells:

A. Melanocytes
B. Labrocytes
C. Fibrocytes
D. Adipocytes
E. Plasmocytes

5. This year influenza epidemic is characterised by patients' body temperature varying from 36.9°C to 379°C. Such fever is called:.

A. Subfebrile
B. Hyperpyretic
C. Moderate
D. High
E. Apyretic

6. A 6-year-old child with suspected active tuberculous process underwent the diagnostic Mantoux test. What immunobiological preparation was injected?

A. Tuberculin
B. BCG vaccine
C. DTP vaccine
D. Tularinum
E. Td vaccine

7. A patient has been administered an anti-inflammatory drug that blocks the action of cyclooxygenase. Specify this anti-inflammatory agent:

A. Aspirin
B. Creatine
C. Thiamin
D. Analgene
E. Allopurinol

8. Examination of an 18-year-old girl revealed the following features: hypoplasia of the ovaries, broad shoulders, narrow pelvis, shortening of the lower extremities, «sphinx neck». Menial development is normal. The girl was diagnosed with Turner's syndrome. What kind of chromosome abnormality is it?

A. Monosomy X
B. Nullisomy X
C. Trisomy 18
D. Trisomy 13
E. Trisomy X

9. Cells of healthy liver actively synthesize glycogen and proteins. What organelles are the most developed in them?

A. Granular and agranular endoplasmic reticulum
B. Lysosomes
C. Cell center
D. Mitochondria
E. Peroxisomes

10. Angiocardiography of a 60-year-old male patient revealed constriction of a vessel located in the left coronary sulcus of the heart. What is the pathological vessel called?

A. Ramus circumflexus
B. A. coronaria dextra
C. Ramus interventricularis posterior
D. Ramus interventricularis anterior
E. V. cordis parva

11. For the study of scrum proteins various physical and physicochemical methods can be used. In particular, serum albumins and globulins can be separated by this method:

A. Electrophoresis

B. Dialysis
C. Polarography
D. Spectrography
E. Refractometry

12. A 30-year-old patient's blood test revealed the following: erythrocyte count is 6 • 1012/L, hemoglobin is 10.55 mmol/1. Vaquez's disease was diagnosed. Name the leading part of pathogenesis:

A. Neoplastic erythroid hyperplasia
B. B12-deficiency
C. Acidosis
D. Iron-deficiency
E. Hypoxia

13. A patient with acute myocardial infarction has been administered heparin as a part of complex therapy. Some time after heparin injection the patient developed hematuria. What heparin antagonist should be injected to remove the complication?

A. Protamine sulfate
B. Aminocaproic acid
C. Vicasol
D. Neodicumarin
E. Fibrinogen

14. A 29-year-old male with a knife wound of neck presents with bleeding. During the initial d-bridement of the wound the surgeon revealed the injury of a vessel found along the lateral edge of the sternocleidomastoid muscle. Specify this vessel:

A. V. jugularis externa
B. V. jugularis anterior
C. A. carotis externa
D. A. carotis interna
E. V. jugularis interna

15. Electrical activity of neurons is being measured. They fire prior to and at the beginning of inhalation. Where are these neurons situated?

A. Medulla oblongata
B. Mesencephalon
C. Diencephalon
D. Cerebral cortex
E. Spinal cord

16. A laboratory experiment on a dog was used to study central parts of auditory system. One of the mesencephalon structures was destroyed. The dog has lost the orienting response to auditory signals. What structure was destroyed?

A. Inferior colliculi of corpora quadrigemina
B. Red nucleus
C. Reticular formation nuclei

D. Superior colliculi of corpora auadrigemina
E. Substantia nigra

17. An alcoholic has alcoholic psychosis with evident psychomotor agitation. What neuroleptic drug should be administered for emergency aid?

A. Aminazine
B. Halothane
C. Diazepam
D. Sodium bromide
E. Reserpine

18. A therapeutist has an appointment with a 40-year-old patient complaining of recurrent pain attacks in his hallux joints and their swelling. Urine analysis revealed its marked acidity and pink colour. What substances can cause such changes in the urine?

A. Uric acid salt
B. Chlorides
C. Magnesium sulfate
D. Calcium phosphate
E. Ammonium salts

19. Since a patient has had myocardial infarction, atria and ventricles contract independently from each other with a frequency of 60-70 and 35—40 per minute. Specify the type of heart block in this case:

A. Complete atrioventricular
B. Intraventricular
C. Intra-atrial
D. Partial atrioventricular
E. Sino-atrial

20. There are cortical and medullary substances separated by connective tissue layer in the endocrine gland specimen. Parenchyma cells make up three zones in cortical substance, with rounded masses in the superficial zone, parallel chords in the middle one, reticular structure of cell chords in the deep one. What gland is it?

A. Adrenal gland
B. Hypothalamus
C. Epiphysis
D. Thyroid gland
E. Pituitary gland

21. A woman poisoned with unknown substance was hospitalised in a toxicological department. What group of drugs can be administered to decrease absorption and introduction of the poison to her body?

A. Adsorbents
B. Antioxidants
C. Cholinesterase inhibitors
D. Organic nitrates

E. Neuroleptics

22. A 35-year-old man with peptic ulcer disease has undergone antrectomy. After the surgery secretion of the following gastrointestinal hormone will be disrupted the most:

A. Gastrin
B. Secretin
C. Histamine
D. Cholecystokinin
E. Neurotensin

23. During surgery performed in abdominal cavity a surgeon located ligament of liver stretching from anterior abdominal wall (navel) to inferior surface of liver. What ligament is it?

A. Round ligament of the liver
B. Coronary ligament of the liver
C. Venous ligament of the liver
D. Falciform ligament of the liver
E. Triangular ligament of the liver

24. As a result of an injury, the integrity of the anterior spinal cord root was broken. Specify the neurons and their processes that had been damaged:

A. Axons of motor neurons
B. Dendrites of association neurons
C. Dendrites of motor neurons
D. Dendrites of sensory neurons
E. Axons of sensory neurons

25. A patient has been hospitalised with provisional diagnosis of virus B hepatitis. Serological reaction based on complementation of antigen with antibody chemically bound to peroxidase or alkaline phosphatase has been used for disease diagnostics. What is the name of the applied serological reaction?

A. Immune-enzyme analysis
B. Immunofluorescence test
C. Antigen-binding assay
D. Bordet-Gengou test
E. Radioimmunoassay technique

26. Pancreas is known as a mixed gland. Endocrine functions include production of insulin by beta cells. This hormone affects the metabolism of carbohydrates. What is its effect upon the activity of glycogen phosphorylase (GP) and glycogen synthase (GS)?

A. It inhibits GP and activates GS
B. It does not affect the activity of GP and GS
C. It activates GP and inhibits GS
D. It inhibits both GP and GS
E. It activates both GP and GS

27. Granulomas containing lymphocytes and macrophages were detected during analysis of skin biopsy material. Among macrophages there are large cells with fat inclusions, which contain microorganisms in spheric packages (Virchow's cells). The following disease is based on the described type of hypersensitivity:

A. Leprosy
B. Syphilis
C. Epidemic typhus
D. Tuberculosis
E. Rhinoscleroma

28. A 10-year-old child has painful swallowing, neck edema, temperature rise up to 39.0°C, the whole body is covered with bright-red petechial rash. Back of the throat and tonsils are hyperemic, the tongue is crimsoncolored. Tonsillar surface is covered with isolated grayish-colored necrosis nidi. What disease is it?

A. Scarlet fever
B. Measles
C. Meningococcal nasopharyngitis
D. Influenza
E. Diphtheria

29. Negative environmental factors have caused the dysfunction of myosatellite cells. What function of the whole muscle fibre is likely to be changed in this case?

A. Regeneration
B. Contraction
C. Relaxation
D. Contractile thermogenesis
E. Trophism

30. A 25-year-old patient complains of increasing pain in his leg muscles occurring during walking and forcing him to make frequent stops. Objectively: skin of legs is pale, no hair-covering, toenails are with trophic changes, no pulsation of pedal arteries. The most probable cause of these changes is:

A. Ischemia
B. Embolism
C. Venous hyperemia
D. Arterial hyperemia