IASI UNIVERSITY OF LIFE SCIENCES
FACULTY OF VETERINARY MEDICINE
SPECIALIZATION: VETERINARY MEDICINE IN ENGLISH

QUESTIONS FOR THE PREPARATION OF THE DISSERTATION EXAM
JUNE 2024

I. ANATOMY

1. Where is the parotid lymph center located?
    a. in the depth of the parotid gland
    b. at the caudal edge of the parotid gland, under the atlas wing,
    c. at the cranial edge of the parotid gland, ventrally to the temporo-mandibular joint.
    d. at the origin of the transverse artery of the face

2. What are the lymph nodes that collect the primary lymph from the eyes?
    a. lateral retropharyngeal lymph nodes
    b. mandibular lymph nodes
    c. parotid lymph nodes.
    d. medial retropharyngeal lymph nodes

3. What is the lymph center that collects the primary lymph from the temporomandibular joint?
    a. mandibular lymph center
    b. parotid lymph center
    c. the retropharyngeal lymph center
    d. pterygoid lymph center

4. Where are placed the mandibular lymph nodes in cattle?
    a. in the intermandibular space, at the tip of the mandibular gland
    b. in the intermandibular space, at the base of the tongue
    c. on the sides of the larynx.
    d. in the intermandibular space, along the sublingual artery

5. Who collect the primary lymph from the oral and nasal cavity?
    a. mandibular lymph nodes
    b. parotid lymph nodes
    c. lateral retropharyngeal lymph nodes
    d. pterygoid lymph nodes

6. Lateral retropharyngeal lymph nodes are placed:
    a. under the wing of the atlas, on the occipital artery pathway
    b. on the sides of the larynx
    c. under the basal part of the occipital
    d. on the ascending palatin artery (a. palatina ascendens) pathway

7. The medial retropharyngeal lymph nodes are placed:
    a. dorsally to the larynx
    b. dorsally to the pharynx, on the pathway of the ascending palatine artery
    c. ventrally to the larynx, in the sagittal plane
    d. at the origin of the lingual artery

8. Where are placed the superficial cervical lymph nodes in cattle?
    a. cranially to the scapulum, in the subcutaneous connective tissue
    b. cranially to the scapulum, between the scalenus and the cleidocephalicus muscles
    c. medially to the scapulum, at the scapular insertion of the cervical ventral serratus muscle
    d. cranially to the scapulum, under the cleidocephalicus muscle, nearby the ascending branch of the superficial cervical artery

9. Where are the cranial mediastinal lymph nodes?
    a. into the thymic lodge
    b. in the precardiac mediastinum, along the brachiocephalic trunk
    c. in the precardial mediastinum, ventrally to the cranial cavae vein
    d. in the precardial mediastinum, dorsally to trachea

10. Where are placed the middle mediastinal lymph nodes?
    a. on the right side of the esophagus, dorsally to heart
    b. at the bronchial bifurcation
    c. between the base of the heart and the pericardial sac.
    d. under the aortic club

11. In cattle, the caudal mediastinal lymph nodes are particular through:
    a. they are developed (10-15 cm long), being located between the mediastinal layers, dorsally to the esophagus
    b. they are missing
    c. they developed (10-15 cm long), being placd into the ligament of the caudal vena cava
    d. they are developed (10-15 cm long), being located between the mediastinal layers, ventrally to the esophagus

12. In cattle, the cranial tracheobronchial lymph nodes are placed:
    a. at the origin of the tracheal bronchus
    b. at the origin of the right cranial lobar bronchus.
    c. they are missing.
    d. at the origin of the bronchus of the left cranial lobe

13. Own (proper) axillary lymph nodes are located:
    a. under the humeral insertion of the teres major muscle
    b. under the humeral insertion of the infraspinatus muscle
    c. at the origin of the ulnar collateral artery
    d. at the origin of the subscapular artery

14. The lymph nodes of the first rib are found:
    a. at the origin of the subscapular artery
    b. medially to the shoulder joint, along the suprascapular artery
    c. they are missing in horses
    d. on the medial face of the first rib, on the pathway of the internal thoracic artery.

15. Who collect the primary lymph from the thoracic acropodium in cattle?
    a. elbow lymph nodes
    b. proper axillary lymph nodes
    c. accessory axillary lymph nodes
    d. lymph nodes of the first rib

16. What lymph nodes collect the primary lymph from the lateral side of the scapular and arm regions?
    a. proper axillary lymph nodes
    b. superficial cervical lymph nodes
    c. deep cervical lymph nodes
    d. prescapular lymph center

18. In cattle, the mammary lymph nodes are found:
    a. at the caudal border of the caudal quarters of the udder
    b. at the cranial border of the cranial quarters of the udder
    c. laterally to the basal plexus of the udder.
    d. along the external pudendal artery.

19. Who collect the primary lymph from the pelvic autopodium in cattle?
    a. popliteal and subiliac lymph nodes
    b. superficial iliofemoral and inguinal lymph nodes
    c. popliteal and iliofemoral lymph nodes
    d. superficial subiliac and inguinal lymph nodes

20. Where are placed the subiliac lymph nodes?
    a. under the external angle of the ilium
    b. in the middle third, on the inner face of the tensor of fasciae latae muscle
    c. on the medial face of the stifle joint, in the thickness of the prefemoral fold
    d. on the descending branch of the deep iliac artery

21. Where are placed the popliteal lymph nodes?
    a. in the femoral trigone, on the femoral artery pathway
    b. behind the stiffle joint, along the popliteal artery
    c. between the biceps femoris and the semitendinossus muscle, dorsally to the gastrocnemius muscle insertion
    d. between the biceps femoris and the semitendinosus muscles, dorsally to the gastrocnemius muscle insertion, along the caudal femoral artery

22. In cattle, the deep iliofemoral lymph nodes are placed:
    a. in the femoral trigone
    b. under the femoral ring
    c. dorsally to the femoral ring, on the external iliac artery pathway
    d. in the pelvic cavity

23. Vegetative innervation (Sympathetic and parasympathetic) of the stomach is ensured by:
    a. celiac preganglionic fibers,
    b. the greater splanhnic nerve,
    c. the lesser splanchnic.
    d. fibers from the coeliac plexus and the parietal gastric plexus

24. Into the layers of the great omentum which anastomosis is formed:
    a. between the right gastroepiploic artery and the left gastroepiploic artery,
    b. between lienal (splenic) artery and the hepatic artery,
    c. between spleniec artery and the gastroduodenal artery
    d. between the left gastric gastric artery and the right gastric artery

25. The morphological criteria for stomach differentiating in the animal are the following:
    a. the shape of the stomach
    b. the types of mucosa and the extended area
    c. after vascularization
    d. after innervation

26. The greater omentum is inserted on:
    a. hilum of the spleen
    b. the ceiling of the abdominal cavity
    c. duodenum
    d. jejunum

27. The morphological criteria for differentiating the ascending colon in animals are the folowing:

a. the number of longitudinal muscular bands
b. the aspect of the colon
c. distribution arteries
d. the position it occupies in the abdominal cavity

28. Which flexure (curvature) of the ascending colon in horses has the smallest caliber?

a. sternal curvature,
b. pelvic flexure,
c. diaphragmatic curvature.
d. they have similar caliber

29. The ligaments that fix the liver are the following:

a. right triangular, left triangular, hepato-renal, hepato-gastric, falciforme, round,
b. right triangular, left triangular, hepato-gastric, falciforme, round
c. hepato-renal, hepato-gastric, right triangular, left triangular
d. round ligament, the greater and the lesser omentum

30. The morphological criteria for differentiating the liver in domestic animal are:

a. the liver color
b. interlobar incisions
c. the aspect of the lobes
d. number of lobes

31. The large mesentery is shorter at:

a. cattle
b. sheep
c. pigs
d. dogs

32. The innervation of the anus is performed by:

a. vegetative fibers from the hypogastric plexus and caudal rectal nerves,
b. vegetative fibers from the hypogastric plexus and pudendal nerves,
c. vegetative fibers of the hypogastric plexus, caudal rectal nerves and perineal nerves
d. fibers from the pudendal nerves

33. In horses, the celiac artery ends with:

a. pancreatic, gastric and hepatic arteries;
b. hepatic and splenic arteries;
c. hepatic, splenic and left gastric arteries
d. hepatic, splenic, left gastric and pancreato-duodenal arteries

34. The transverse colon is supplied by:
    a. dorsal colic artery (right fascicle);
    b. caudal mesenteric artery;
    c. middle colic artery;
    d. ventral colic artery

35. What are the roots of portal vein in horses?
    a. splenic, gastric, cranial mesenteric and caudal mesenteric veins;
    b. splenic, gastric, jejunal and colic veins,
    c. splenic, cranial mesenteric and caudal mesenteric veins
    d. splenic, gastric, cranial mesenteric, caudal mesenteric and rectal mesenteric veins;

36. In horses, the cranial rectal artery originates from:
    a. the caudal mesenteric artery;
    b. the cranial mesenteric artery;
    c. the internal pudendal artery.
    d. the vaginal (or prostatic) artery

37. The orifice through which the portal vein perforates the diaphragm is located:
    a. between the left and right pillars;
    b. between the left pillar and the left intermediate;
    c. no answer is correct.
    d. at the top of the lateral right pillar

38. The right gastroepiploic artery comes from:
    a. the left gastric artery
    b. the hepatic artery
    c. the gastroduodenal artery
    d. splenic artery

39. The caudal flexure of the duodenum (duodeno-transverse flexure) is placed:
    a. caudally to the origin of caudal mesenteric artery
    b. cranially to the origin of the celiac artery
    c. caudally to the origin of the cranial mesenteric artery
    d. cranially to the origine of the cranial mesenteric artery

40. In horses, the top of th cecum is particular through:
    a. it is placed on the floor of the abdominal cavity
    b. it is not sacculated
    c. it is connected to the ventral colon by the ceco-colic ligament
    d. it is placed on the floor of the abdominal cavity between loops I and II

41. The the intercolic ligament in horses links:
    a. the loops of the ventral colon between them
    b. the loops of the dorsal colon between them
    c. the ventral colon with the dorsal colon
    d. the cecum with the ventral colon

42. The hepatic hilum is approached by:
    a. portal vein
    b. the choledoc canal
    c. cystic duct
    d. caudal vena cava

43. The hepatic veins flow into:
    a. portal vein
    b. caudal vena cava
    c. gastric vein
    d. azygos vein

44. The splenic artery emits:
    a. the left gastro-epiploic artery
    b. the right gastro-epiploic artery
    c. gastric rami
    d. pancreatic branches

45. The hepatic artery originates in:
    a. the celiac trunk
    b. the large mesenteric trunk
    c. the broncho-esophageal trunk
    d. the descending aorta

46. The liver of the horse is particular through:
    a. three lobes
    b. four lobes
    c. five lobes
    d. the incised (fringed) quadratus lobe

47. The pancreas sheds its exocrine secretion product into:
    a. duoden
    b. jejun
    c. ileon
    d. pilor

48. The horse's pancreas has a ring through which it passes:
    a. the caudal vena cava
    b. the cranial vena cava
    c. the portal vein
    d. the splenic vein

49. In specis, the kidneys are differentiated through:
    a. their color
    b. the aspect of the cortical area
    c. vascular drawing
    d. after the renal pelvis

50. In species, the lungs are differentiated by:
    a. the lobular design
    b. the tracheal bronchus
    c. interlobar incisures
    d. the aspect of the lobes

51. In animals, lungs are not differentiated by:
    a. segmental and subsegmental bronchi
    b. tracheal bronchus
    c. interlobar incisure
    d. the aspect of lung lobules

52. Where the cecum is projected in the horse?
    a. on the right side, ventral to the midline of the abdomen
    b. in the right flank, occupying the flank, the chord of the flank and the slope of the flank
    c. in the hollow of the right flank.
    d. in the hollow of the left flank

53. Where is projected the ascending colon of the horse:
    a. on the right side, below the midline of the abdomen
    b. on the left side, below the midline of the abdomen
    c. on the right and left sides, below the midline of the abdomen.
    d. on the ventral face of the abdomen

54. In horses, on the right side of the abdomen, the liver has the following projecting area:
    a. is not projected
    b. cranially, is delimited by the diaphragm, ventrally by the middle line of the abdomen and caudally by a line between the base of the 17th rib and the middle of the 15th rib
    c. cranially is delimited by the diaphragm, ventrally by the midline of the abdomen and caudally by the 10th rib
    d. the caudal midline, below the diaphragm

55. In horses, the descending colon is projected:
    a. in the whole of the left flank
    b. on the slope of the right flank
    c. has no projection area at the level of the abdominal wall
    d. in both sides of the sublumbar region

56. In horses, the jejunum is projected:
    a. in the diaphragmatic concavity
    b. on the left side, corresponding to a band of 10-20 cm, located dorsally to the midline of the abdomen, caudal to the hypochondral arch
    c. on the right side, corresponding to a band of 10-20 cm, located dorsally to the midline of the abdomen, caudally to the hypochondral arch
    d. at the cavity entrance

57. The projection area of the rumen in ruminants is drown:
    a. on the right side of the abdominal cavity
    b. on the left side of the abdominal cavity
    c. on the floor of the abdominal cavity
    d. on the right side from the diaphragm to the entrance to the pelvic cavity

58. In cattle, the projection area of the reticulum is placed:
    a. is not designed
    b. on the left side, between VI-VIII ribs, below the midline
    c. on the right side, between the VI-VIII ribs, below the midline.
    d. on the left side, between the VI-VIIIribs , dorsally to the midline

59. In cattle, the omasum area of projection is designed:
    a. has no projection area
    b. on the left side, below the midline of the abdomen, between the VI-VIII ribs
    c. on the right side, dorsally to abomasum, between the VI-IX ribs
    d. on the right side, dorsally to the abomasum

60. In cattle, the gallbladder in cattle is projected:
    a. on the right side, in the tenth intercostal space, 3 cm below the midline of the abdomen
    b. on the left side, in the tenth intercostal space, 3 cm below the midline of the abdomen
    c. has no projection area on the wall of the abdominal cavity
    d. dorsally to the caudate lobe projection

61. The greater omentum represents:
    a. the stomach ligament
    b. the small intestine ligament
    c. the large intestine ligament
    d. the liver ligament

62. The lesser splanchnic nerve consists of:
    a. presynaptic sympathetic fibers
    b. postsynaptic sympathetic fibers
    c. postsynaptic parasympathetic fibers
    d. presynaptic parasympathetic fibers

63. The external pudendal artery is discovered as follows:
    a. through the incision of the skin on the side of the prepuce
    b. through an incision of the skin at the level of the caudo-medial commissure of the superficial inguinal ring
    c. through an incision of the skin near the cranio-lateral commissure of the superficial inguinal ring
    d. at the tip of the femoral trigone

64. In boars, the superficial inguinal ring appears as a slit, being placed:
    a. cranially to the pubis and laterally to the white line
    b. in the subanal region
    c. over the ischiadic arch, lateral to the perineal ridge
    d. in the hypogastric region

65. The inguinal canal represents:
    a. the path of the testicular cord in the groin (inguinal) region.
    b. the space between the two inguinal rings
    c. the testicular cord pathway from the origin to the testicle
    d. the space traversed by the testicle during testicular migration

66. In horses, the dorsal artery of the penis comes from:
    a. the symmetrical anastomosis of the pudendal arteries (internal and external)
    b. the anastomosis of the caudal artery of the penis with the median artery of the penis
    c. the anastomosis of the cranial artery of the penis with the median and caudal artery of the penis
    d. the median artery of the penis

67. The blocking of the dorsal nerve of the penis is performed:
    a. at the level of the ischiadic arch, lateral to the root of the penis
    b. on the dorsal face of the penis, in the inguinal region.
    c. at the level of the superficial inguinal ring
    d. lateral to the anus, into the paraanal fosse

68. The preputial diverticulum is found:
    a. at bulls
    b. at dogs
    c. at boars
    d. at rabbits

69. The testicular cord consists of:
    a. the testicular artery and vein
    b. the artery, the vein and the deferens ductus covered by serosa
    c. the artery, the vein and the deferens ductus, covered by the fibrous layer.
    d. the artery, the vein, the cremaster muscle and deferens ductus, covered by the serous-fibrous layer.

70. The external cremaster muscle originates from:
    a. the internal oblique muscle of the abdomen
    b. the external oblique muscle of the abdomen
    c. the rectus abdominis muscle
    d. the transverse muscle of the abdomen

71. The vaginal process includes:
    a. the superficial and the deep fascia of the trunk
    b. the fibrous-serous layer
    c. the tunica flava of the abdomen.
    d. the parietal peritoneum

72. In dogs, the testicular pouches are supplied by:
    a. the internal pudendal artery
    b. the external pudendal artery and the internal pudendal artery
    c. the obturator artery.
    d. the iliohypogastric artery

73. The testicular mediastinum represents:
    a. fibrous extension along the long axis of the testis
    b. the place where the rete testis is located
    c. is thick and centrally placed in boars
    d. is found at the cranial pole of the testicle at the stallion

74. The pampiniform plexus:
    a. it is formed by the testicular vein
    b. it is placed at the cranial pole of the testicle
    c. it is formed by the epididymal canal
    d. it is placed in the tail of the epididymis

75. Who sensory innervates the skin of the dorsal face of the carpus in horses?
    a. the dorsal carpal nerve
    b. the cranial antebrachial cutaneous nerve and the dorsal carpal nerve
    c. sensory branches of the palmar nerves.
    d. the superficial branch of the radial nerve.

76. What are the vascular-nervous structures that pass through the superficial layer of the carpal flexor retinaculum (palmar anular carpal ligament)?

a. the palmar artery and the medial palmar nerve

b. palmar artery, palmar vein and palmar nerves

c. the radial and the ulnar arteries, the radial and the ulnar veins and the lateral palmar nerve.

d. the radial and the ulnar arteries, the radial and the ulnar veins, the tendon of the flexor carpi-radialis muscle and the lateral palmar nerve.

77. What are the structures that pass through the deep layer of the carpal flexor retinaculum (palmar anular carpal ligament)?

a. the palmar artery and the medial palmar nerve

b. the palmar artery, the palmar vein and the palmar nerves

c. the radial and the ulnar arteries, the radial and the ulnar veins and the lateral palmar nerve.

d. palmar artery, medial palmar nerve and tendons of the deep and the superficial digital flexor muscles

78. What is the anatomical basis of the metacarposamophalangeal joint in horses?

a. the metacarpal bones, the first phalanx and the greater sesamoids

b. the distal extremity of the third metacarpal, the proximal extremity of the phalanx I and the great sesamoids.

c. the body of the second phalanx

d. the distal extremity of the third and the secondary metacarpals, the proximal extremity of the first phalanx and the greater sesamoids.

79. In horses, the vascular-nervous structures of the fetlock region are highlighted:

a. through an incision about 3 cm long placed on the sides

b. through an incision about 3 cm long, placed laterally to the greater sesamoids

c. through a long incision on the palmary face of the fetlock

d. through an incision on the dorsal face of the fetlock

80. The place for blocking of the digital nerve is:

a. dorsally of the fetlock joint

b. dorsally to the ligament of the ergot

c. cranially to the digital artery

d. ventrally to the ligament of the ergot.

81. The vascular-nervous structures of the pastern region are dorso-palmary ordered as following:

a. nerve, vein, nerve, artery, nerve

b. nerve, artery, nerve, vein, nerve

c. artery, vein, nerve

d. artery, vein, nerve, tendon

82. Which structures belong to the hoof cushioning system?

a. the coffin and the frog
b. the frog and the heel bulbs
c. cartilages of the hoof and the frog
d. cartilages of the hoof, tubular layer of the coffin and the frog.

83. Which structure delimits the osteo-ligamentous and vascular-nervous tissues from the hoof capsule on the solar face of the hoof?

a. the cuticula
b. the white line
c. the central groove
d. the frog bars

84. In horses, where anastomose the digital arteries?

a. through the terminal arch, located in the solear duct
b. through the circumflex artery of the foot, located at the edge of the third phalanx
c. into the coronary groove
d. they do not anastomose

85. Which innervates the hoof cushion and the sole in horses?

a. the caudal digital nerve
b. the caudal and the middle digital nerve
c. deep palmar nerve
d. the middle digital nerve

86. Digital veins in horses originate from:

a. the solear veins
b. the internal and external venous plexuses of the hoof cartilages
c. the anastomose between solear and coronary veins.
d. in the venous networh of the corium of the frog and bulbs of the heel

87. What are the structures that increase the length of the hoof capsule?

a. internal layer (lamellar) of the hoof
b. external layer (cuticula) and middle layer of the hoof
c. the corium of the sole and frog
d. papillae of the coronary corium that produce the horny tubules

88. In horses, the common digital artery II is the main vessel of the metacarpal region being found in:

a. parallel to the flexor tendons on the lateral face of the region
b. parallel to the flexor tendons on the medial face of th region
c. on the dorso-medial face of the metacarpus, passing over the metacarpal fascia
d. parallel to the flexor tendons, on the medial face, covered by the metacarpal fascia

89. Indicate the dorso-palmary succession of the tendons on the palmar (caudal) face of the metacarpal region in horses:

a. the interosseous, the deep flexor and the superficial flexor muscles

b. the superficial flexor, the interosseous and the deep flexor muscles

c. the interosseous, the deep flexor, the superficial flexor and lateral digital extensor muscles

d. the intermediate tendon, the sural triceps tendon and the tendon of the superficial flexor muscle.

90. The deep plantar nerve has following characteristics:

a. it originates from the lateral plantar nerve

b. it locates on the medial face of the long plantar ligament

c. it innervates the median interosseous muscle

d. it innervates the deep plantar flexor muscle

91. Through the deep carpal canal pass the following structures:

a. the superficial flexor muscle

b. the deep flexor muscle

c. the palmar artery

d. the medial palmar nerve

92. On the left face of the heart there are:

a. The subsinuous artery and the greater vein of the heart

b. The patraconal artery and the greater vein of the heart

c. The marginal artery of the left ventricle in cattle and dogs

d. Paraconal groove

93. The epicardium represents:

a. The visceral layer of the serous pericardium

b. The visceral layer of the pleura

c. The conjunctive layer from the fibrous pericardium

d. Continuation of the internal vascular layer on the hearth

94. The cardiac bones are placed into trigona fibrosa:

a. Placed at the level of atrio-ventricular openings

b. In the interseptal walls

c. at the base of great vessels of the heart.

d. Into the aorto-pulmonary ligament.

95. The apex of the heart belongs to:

a. the right ventricle

b. the left ventricle

c. the ventricular septum

d. right atria

96. Fossa ovalis represents:
    a. A depression into the interatrial septum
    b. A depression into the interventricular septum
    c. A depression of the Botall foramen reminiscence
    d. O depression at the base of aorta

97. The left coronary artery has the origin into:
    a. Aortic bulb
    b. Aorta ascendens
    c. In left ventricle, near the bicuspid valve
    d. Valsalva sinuses

98. The papillary muscles are formed by:
    a. The own cardiac fibers
    b. The unitive fibers
    c. Both of them
    d. Atrial unitive fibers

99. The fascicle Hiss branches pass to the marginal wall through:
    a. Valves
    b. Septo-marginal muscles
    c. Together the unitive muscular fibers
    d. They do not pass, forming a continue network under the endocardium.

100. The heart's innervation is:
    a. autonomic, achieved by the nodal tissue
    b. sympathetic
    c. parasympathetic
    d. motor

II. PHYSIOLOGY

1. Choose the correct statement (s) below:
    a. Acetylcholine is a chemical transmitter at the parasympathetic postganglionic–to–target organ synapse
    b. Sympathetic postganglionic neurons are usually longer than those of the parasympathetic system
    c. The adrenal medulla secretes acetylcholine and norepinephrine
    d. Muscarinic acetylcholine receptors are found on peripheral targets of parasympathetic postganglionic neurons

2. A chemical neurotransmitter between preganglionic and postganglionic neurons of the parasympathetic component of the autonomic nervous system is:
    a. Norepinephrine
    b. Acetylcholine
    c. Epinephrine
    d. γ-Aminobutyric acid

3. A neurotransmitter most often found at the synapse between sympathetic postganglionic neurons and their targets is:
    a. Norepinephrine
    b. Epinephrine
    c. Acetylcholine
    d. Dopamine

4. Which of the following is true regarding sympathetic preganglionic neurons?
    a. Their cell bodies are located in thoracic and lumbar regions of the spinal cord
    b. Their axons synapse within the visceral ganglia
    c. Their axons form splanchnic nerves
    d. Their axons travel in the ventral root

5. Horner's syndrome is caused by the loss of:
    a. Sympathetic innervation to the eye
    b. Parasympathetic postganglionic innervation to the eye
    c. Peripheral muscarinic receptors
    d. Vagus nerve fibers

6. Cell bodies of the sympathetic postganglionic neurons are located in the:
    a. Intermediolateral nucleus
    b. Cranial cervical ganglion
    c. Ciliary ganglion
    d. Motor nucleus of the oculomotor nerve (III)

7. Cell bodies of the parasympathetic postganglionic neurons are located in the:
    a. Intermediolateral nucleus
    b. Cranial cervical ganglion
    c. Ciliary ganglion
    d. Visceral ganglia

8. A tissue innervated solely by the sympathetic division is the:
    a. Blood vessels of skeletal muscle
    b. Gastrointestinal tract
    c. Heart
    d. Bronchiolar smooth muscle

9. Which statement regarding the autonomic innervation of the adrenal medulla is true?
    a. The adrenal medulla is innervated by both the sympathetic and parasympathetic divisions
    b. The adrenal medulla is innervated only by the parasympathetic division
    c. Sympathetic preganglionic neurons innervate chromaffin cells in the medulla
    d. Chromaffin cells release norepinephrin in response to their preganglionic stimuli

10. Pupillary contraction is mediated by:
    a. Intermediolateral nucleus
    b. Cilliary ganglion
    c. Parasympathetic nucleus of the vagus nerve
    d. Parasympathetic nucleus of the oculomotor nerve

11. Horner's syndrome results from a lesion involving:
    a. Vagus nerve
    b. Cervicothoracic ganglion
    c. Lumbar spinal cord
    d. Pelvic nerve

12. The peripheral nerve that triggers contraction of the detrusor muscle of the bladder is the:
    a. Hypogastric nerve
    b. Pelvic nerve
    c. Pudendal nerve
    d. Vagus nerve

13. Absence of voluntary micturition associated with strong resistance to manual evacuation of bladder suggests that the lesion most likely involves:

a. Spinal cord segments T3–T5
b. Spinal cord segments S1–S3
c. Hypogastric nerve
d. Pudendal nerve

14. Sympathetic postganglionic neurons innervating the heart release the neurotransmitter _____ that binds to _____ receptors.

a. Acetylcholine, muscarinic
b. Acetylcholine, nicotinic
c. Norepinephrine, adrenergic (β1)
d. Norepinephrine, adrenergic (β2)

15. Sympathetic postganglionic neurons innervating the blood vessels release the neurotransmitter _____ that binds to _____ receptors.

a. Norepinephrine, adrenergic (α1)
b. Acetylcholine, nicotinic
c. Norepinephrine, adrenergic (β1)
d. Norepinephrine, adrenergic (β2)

16. Horner's syndrome is caused by the loss of:

a. Sympathetic innervation to the eye.
b. Parasympathetic postganglionic innervation to the eye.
c. Peripheral muscarinic receptors.
d. Vagus nerve fibers.

17. Postganglionic parasympathetic neurons have _____ receptors that bind to neurotransmitter _____.

a. Nicotinic, norepinephrine
b. Adrenergic β1, norepinephrine
c. Muscarinic, acetylcholine
d. Adrenergic α1, acetylcholine

18. Which of the following is true regarding parasympathetic preganglionic neurons?

a. Their cell bodies are located in sacral region of the spinal cord.
b. Their axons synapse within the visceral ganglia
c. Their axons form splanchnic nerve.
d. Their axons form vagus nerve.

19. Pupillary dilation is mediated by:
    a. Intermediolateral nucleus
    b. Cranial cervical ganglion
    c. Parasympathetic nucleus of the vagus nerve
    d. Parasympathetic nucleus of the oculomotor nerve

20. One of the binding sites of norepinephrine is:
    a. Muscarinic receptor subtype M1
    b. Muscarinic receptor subtype M2
    c. Nicotinic receptors
    d. β1 Adrenergic receptor

21. Bending the stereocilia toward the kinocilium results in opening of:
    a. mechanically gated K+ channels in the stereocilia and depolarization
    b. mechanically gated Na+ channels in the kinocilium and depolarization
    c. ligand-gated K+ channels in the kinocilium and hyperpolarization
    d. ligand-gated Na+ channels in the stereocilia and hyperpolarization

22. The receptor that detects angular acceleration and deceleration of the head is the:
    a. organ of Corti
    b. macula in the saccule
    c. crista ampullaris
    d. macula in the utricle

23. Which statement (s) is (are) true?
    a. The semicircular ducts are filled with endolymph
    b. Each sensory vestibular cell has one kinocilium and numerous stereocilia
    c. The cupula of the crista ampullaris is associated with statoconia (calcium carbonate)
    d. The crista ampullaris is present in the utricle and saccule

24. The vestibulospinal tracts facilitate lower motor neurons innervating:
    a. flexor muscles
    b. extensor muscles
    c. both extensor and flexor muscles
    d. extraocular muscles

25. An animal with a lesion of the right vestibular nerve is likely to fall or circulate to the:
    a. right
    b. left
    c. due to loss of muscle tone on the right side of the body
    d. due to loss of muscle tone on the left side of the body

26. The vestibulo-ocular reflex requires:
    a. the medial longitudinal fasciculus
    b. the motor nuclei III, IV, VI
    c. the motor nuclei VII
    d. the vestibulospinal tract

27. The receptor organ detecting head tilt and linear acceleration and deceleration is located in the:
    a. utricle
    b. saccule
    c. ampulla of the semicircular duct
    d. cochlea

28. Which chambers are filled with endolymph?
    a. semicircular duct
    b. utricle and saccule
    c. scala vestibuli af the cohlea
    d. tympanic cavity

29. Which statement is true related to inner ear fluids?
    a. endolymph has a high concentration of K
    b. endolymph has a high concentration of Na
    c. perilymph has a high Na concentration.
    d. perilymph has a high K concentration

30. Which two of the following are not generally associated with the macula?
    a. Otoliths
    b. Cupula
    c. Detection of linear acceleration of the head
    d. Normal nystagmus

31. In general, hormones are classified as:
    a. carbohydrates
    b. proteins
    c. steroids
    d. peptides

32. Which one of the following hormones is a protein?
    a. Melatonin
    b. Insulin
    c. Vasopressin
    d. Epinephrine

33. Which of the following hormones are steroids?
    a. Growth hormone
    b. Cortisol
    c. Testosterone
    d. Dopamine

34. In general, steroid hormones are classified as mineralocorticoid, glucocorticoid, and sex steroids. Which one of the following hormones is a mineralocorticoid?
    a. Aldosterone
    b. Growth hormone
    c. Cortisol
    d. Testosterone

35. Direct feedback control of corticotropin-releasing hormone by ACTH is termed:
    a. Hypothalamus-Hypophisis- Adrenal cortex axis
    b. Ultrashort-loop feedback
    c. Short-loop feedback
    d. Long-loop feedback

36. Hormones from the proopiomelanocortin family, synthesized by adenohypophysis, are :
    a. MSH
    b. ACTH
    c. Endorphine
    d. TSH

37. Increased hormonal activity that occurs during daylight hours is termed _____rhythm.
    a. Circadian
    b. Diurnal
    c. Nocturnal
    d. Ultradian

38. Growth hormone secretion is stimulated by:
    a. Fasting and hypoglycemia
    b. GHRH made in the adenohypophysis
    c. GHRH made in the hypothalamus
    d. Exercise

39. What are the stimuli for secretion of antidiuretic hormone (ADH)?
    a. Hypovolemia
    b. Decreased sodium content of blood
    c. Increase in osmolarity of the blood
    d. Excessive glucose in the urine

40. Which factor (s) stimulate (s) secretion of oxytocin?
    a. Decline in milk secretion
    b. Stretch of the cervix during parturition
    c. Melatonin
    d. Sucking

41. The pineal gland secretes melatonin during ____. Melatonin inhibits/stimulates ___.
    a. Daylight; inhibits androgens production
    b. Darkness/inhibits GnRH production
    c. Daylight/inhibits MSH
    d. Darkness/stimulates growth hormone production

42. The factors stimulating thyrotropin- releasing hormone production are:
    a. Cold weather
    b. Low T3 and T4 concentrations
    c. High T3 and T4 concentrations
    d. Low TSH concentrations

43. Gonadotropin-releasing hormone secretion can be inhibited by:
    a. Progesterone
    b. Adrenocorticotropic hormone
    c. Estrogen
    d. Testosterone

44. Cortisol has which of the following physiologic effects?
    a. Stimulates tissue growth
    b. Decreases lipolysis by adipose tissue
    c. Increases gluconeogenesis in the liver
    d. Decreases phagocytosis and suppresses antibody formation

45. Decreased thyroid hormone secretion can:
    a. Decrease ability to adapt to the cold
    b. Increase heart rate
    c. cause weight loss
    d. cause hair loss

46. The other main hormone secreted by the thyroid gland, in addition to tetraiodothyronine and triiodothyronine, is:
    a. Calcitonin
    b. Insulin
    c. Parathyroid hormone
    d. Glucagon

47. The most important function of aldosterone is control of:

a. Carbohydrate metabolism
b. Glucose metabolism
c. Electrolyte metabolism
d. Protein metabolism

48. The pancreas has four types of cells, each of which produces a specific hormone. Select the appropriate combination below:

a. Insulin, β cells
b. Glucagon, α cells
c. Somatostatin, F cells
d. Pancreatic polypeptide, δ cells

49. Two hormones play an important role in calcium homeostasis. The two hormones, _____ and _____, cause an increase and a decrease in calcium concentrations, respectively:

a. Calcitonin; glucagon
b. Somatostatin; calcitonin
c. Calcitonin; parathyroid hormone
d. Parathyroid hormone; calcitonin

50. The main functions of the catecholamines are to allow rapid body responses to acute stimuli. One of this hormones , _____ , is also the main neurotransmitter of the sympathetic nervous system, whereas another, _____ , is the main hormone produced by _____ cells from adrenal medulla.

a. Serotonin; epinephrine; chromaffin
b. Epinephrine; serotonin; pinealocyte
c. Norepinephrine; epinephrine, chromaffin
d. Epinephrine; norepinephrine, postganglionic neurons

51. A transfusion of normal plasma into a normal dog would:

a. Increase the viscosity of the recipient's blood
b. Decrease the hematocrit of the recipient's blood
c. Decrease the mean corpuscular hemoglobin concentration (MCHC) in the recipient's plasma
d. Increase the number of cells in the recipient's blood

52. Where normaly does RBC production occur during the postnatal period?

a. only in the liver
b. only in the bone marrow
c. in the liver, spleen and bone marrow
d. in the spleen and other lymphoid organs

53. How many molecules of O2 can be transported by one molecule of hemoglobin?
    a. four molecules
    b. eight molecules
    c. two molecules
    d. one molecules

54. High altitude alters erythrocyte production as follows:
    a. increases the number of RBC and decreases MCV
    b. decreases the number of RBC and increases MCV
    c. increases both no of RBC and MCV
    d. decreases both no of RBC and MCV

55. Which of the following statements is (are) true, related to the reticulocyte?
    a. is a nucleated red blood cells
    b. is a young red blood cells that contain some remnants of cytoplasmic organelles
    c. is an aged red blood cells that consumed hemoglobin
    d. cows have circulating reticulocytes only during a regenerative response

56. One of the following species do not naturally have alloantibodies to the opposite blood types:
    a. dogs
    b. cats
    c. horses
    d. humans

57. Name the animals that have the elliptical shape of erythrocytes:
    a. dear
    b. camel
    c. goat
    d. birds

58. Which of the following statements is (are) true?
    a. a hemolytic post-transfusion reaction occurs in the dog at the first transfusion from DEA 1.1. positive to DEA 1.1. negative dog
    b. a rapid intravascular destruction of the type A RBCs occurs at the first transfusion when type A blood is administered to a type B cat.
    c. alloantibodies present in colostrum can affect the health of DEA 1.1 negative puppies
    d. alloantibodies present in colostrum can affect the health of type A or type AB kittens.

59. Which of the following statements is (are) true?
    a. most of the iron needed for erythropoiesis derives from dietary iron.
    b. gastrectomy causes vitamin B12 deficiency and blocks erythropoiesis
    c. estrogen hormones stimulates erythropoiesis
    d. androgen hormones stimulates erythropoiesis

60. Blood group status:
    a. is defined by the antigenes on the erythrocyte surface.
    b. is defined by the plasmatic antibodies.
    c. is tested using erythrocyte coagulation reaction
    d. is tested by erythrocyte agglutination reaction

61. Extravascular hemolysis:
    a. is phenomenon of removal from circulation of 10 % of aged erythrocytes
    b. is phenomenon of removal from circulation of 90 % of aged erythrocytes
    c. is not possible in the bone marrow
    d. is possible in the spleen

62. Choose the correct statement (s):
    a. After performing the function in the tissues, the granulocytes return to the blood
    b. The neutrophil dies after performing phagocytic function
    c. Basophils stop allergic reactions
    d. Eosinophils tend to dampen allergic reactions

63. NK lymphocytes:
    a. depends on the presence of appropriate histocompatibility antigens
    b. kill cells lacking MCH expression.
    c. produce antibodies
    d. kill microbes and tumor cells by phagocytosis

64. “B” lymphocytes are responsible for:
    a. phagocytosis of microbes
    b. c. cellular immunity
    c. humoral immunity
    d. synthesis of antibodies

65. Which statement (s) is (are) true about monocytes?
    a. Monocytes can develop in tissues into histiocytes and dendritic cells
    b. Monocytes perform their defense function through the synthesis of antibodies
    c. Monocytes have a short circulation time, but can remain in the tissues for several months.
    d. Monocytes are phagocytes

66. The first cellular stage of thrombopoiesis in mammals is:
    a. thromboblast
    b. megacarioblast
    c. myeloblast
    d. monoblast

67. One of the following functions is not specific to the blood platelets:
    a. blood vessel repair
    b. immunity
    c. procoagulant activity
    d. transport of gases

68. What are the final key reactions involved in the formation of a clot:
    a. platelet aggregation
    b.fibrinolysis
    c. thrombin formation
    d. fibrin formation

69. Thrombosthenin is:
    a. a contractile protein that can cause the platelets to contract resulting in clot retraction
    b. a contractil protein that can cause pseudopodia emission and change in platelet shape
    c. a platelet phospholipid that is active in intrinsic pathway of coagulation
    d. an enzyme that causes conversion of prothrombin to thrombin

70. What reaction initiates the extrinsic coagulation pathway:
    a. release of platelet phospholipids and activation of factor XII
    b. release of tissue thromboplastin and activation of factor VII
    c. release of calcium from platelet and activation of factor X
    d. release of thrombostenin from platelet and activation of factor III and VII

71. In the adult animal, which of the following cardiac compartments is filled with oxygenated blood?
    a. left ventricles
    b. left atrium
    c. right ventricle
    d. right atrium

72. The right ventricles supply the main pumping force that propels the blood through:
    a. the pulmonary trunk
    b. the aorta
    b. the cave vein
    d. the pulmonary vein

73. In the adult animal, which of the following cardiac compartments is filled with non-oxygenated blood:
    a. left ventricles
    b. left atrium
    c. right ventricle
    d. right atrium

74. From a functional point of view, cardiac muscle is a *syncytium* because:
    a. the heart contain a specialized excitatory and conductive system
    b. there are permeable gap junctions between muscle cells named intercalary discs
    c. a fibrous tissue surrounds the atrioventricular valvular openings
    d. the intercalated discs allow the free diffusion of ions from a cell to another

75. What cardiac fibers have the capability of *self-excitation:*
    a. atrium muscle fibers
    b. ventricular muscle fibers
    c. connective tissue fibers
    d. sinus nodal fibers

76. The T wave in a normal ECG is:
    a. Always negative.
    b. Also known as the pacemaker potential.
    c. Caused by the delay between atrial and ventricular depolarization.
    d. Caused by ventricular repolarization.

77. Which one of the following correctly describes the events occurring during isovolumetric contraction of the left ventricle?
    a. The AV valve is closed, the semilunar valve is open
    b. The AV valve is open, the semilunar valve is closed
    c. The AV and semilunar valves are both closed
    d. The intraventricular pressure is rapidly increasing but no blood is being ejected yet

78. If the EDV of a horse is 800 ml, the ESV is 300 ml, and the heart rate is 40 beats per minute, what would the cardiac output be?
    a. 8 L/min
    b. 12 L/min
    c. 20 L/min
    d. 500 ml/min

79. Which cardiac valves close with the first heart sound?
    a. Semilunar valves
    b. Atrioventricular valves
    c. Both, AV and semilunar
    d. Neither, both valves open with the first heart sound

80. Second heart sound is:
    a. diastolic
    b. systolic
    c. caused by closure of the aortic and pulmonary valves
    d. caused by closure of the atrio-ventricular valves

81. How the blood pressure (BP) varies in different parts of the circulation?

a. As the blood flows through the systemic circulation, BP falls progressively to about 0 mm Hg by the time it reaches the termination of the venae cavae.

b. In the systemic arterries, the systolic pressure level is lower than the diastolic pressure level.

c. In the systemic capillaries, BP varies from a high level near the arteriolar ends to low level near the venous ends.

d. The capillary have the smallest cross-section area, as a result they have the smallest BP.

82. The arterial baroreflex response to a decrease in arterial blood pressure is:

a. Increased discharge in sympathetic nerves to the heart and blood vessels

b. Decreased discharge in arterial baroreceptor afferent nerves

c. Increased discharge in the vagus nerve to the heart

d. An increase in heart rate, vasoconstriction and increased venous return

83. Which of the following factors help the venous return?

a. increased blood volume

b. dilatation of the arterioles, which decreases the peripheral resistance

c. increased peripheral venous pressures

d. decreased blood volume

84. The following parameters were measured in the microcirculation of a skeletal muscle during a period of vigorous exercise: capillary hydrostatic pressure = 34 mm Hg; interstitial fluid hydrostatic pressure = 10 mm Hg; capillary plasma oncotic pressure = 24 mm Hg; interstitial fluid oncotic pressure = 3 mm Hg

Which of the following is true?

a. These conditions would favor filtration

b. These conditions would favor reabsorption

c. These conditions would favor neither filtration nor reabsorption

d. It is not clear what these conditions favor because the concentration of plasma protein is not specified

85. Vasovagal syncope:

a. Involves increased sympathetic activity

b. Involves increased cardiac parasympathetic activity

c. Prepares an animal for “fight or flight”

d. Involves decreased blood pressure and heart rate

86. Only one of these statements is correct:

a. The stomach and colon secrete most gut hormones

b. The duodenum secretes most gut hormones

c. The jejunum secretes most gut hormones

d. The ileum secretes most gut hormones

87. Which of herbivores use lips to grasp herbivorous material:

a. Horse
b. Cow
c. Goat
d. Sheep

88. Which of the following matches are correct in relation to drinking water:

a. Birds/ lift the head to allow gravity to deliver water to the back of the oral cavity
b. Horses/ create a negative pressure within the oral cavity that allows suction of water
c. Dogs/ lap water, turning the tip of the tongue ventrally to form a ladle which is extended into the water to lift a column of water up
d. Cats/ use their tongue as a piston to create a negative pressure like horses an cattle

89. Enterogastric reflex:

a. are initiated from the gastric wall to accelerate stomach emptying
b. are initiated from the duodenal wall to slow or stop stomach emptying
c. are initiated from stomach antrum to provide a pyloric pump
d. are initiated by CCK to to promote the passage of fatty chyme into the duodenum

90. The term cephalic phase is used in reference to a number of activities occurring in the GI tract. In general, the term means:

a. Oral digestive events
b. Gastric events stimulated by the presence of food in the oral cavity
c. Digestive events stimulated by the presence of food in the GI tract, but requiring reflexes integrated in the central nervous system
d. Gastric events that occur before the ingestion of food and in response to central nervous system stimulation that is brought on by the anticipation of eating

91. Which of the following best describes the motility of the proximal region of the monogastric stomach?

a. Rhythmic segmentation
b. Peristalsis
c. Retropulsion
d. Adaptive relaxation

92. α-Amylase is an enzyme of:

a. saliva
b. gastric juice
c. bile
d. pancreatic juice

93. Pepsine is:

a. a glycolytic enzyme of pancreatic juice
b. a proteolytic enzyme of gastric juice
c. secreted in an inactive form and activated by enterokinase
d. secreted in an inactive form and activated by HCl

94. Which of the following digestive secretions does not contain digestive enzymes:

a. bile
b. gastric juice
c. intestinal juice
d. saliva

95. In which of the following respects is fermentative digestion different from glandular digestion?

a. Enzymes are not involved in fermentative digestion
b. Chemical bonds are not split by hydrolysis in fermentative digestion
c. Only carbohydrates are digested by fermentative digestion
d. Substrates are more extensively altered in fermentative digestion than in glandular digestion

96. In a comparison of hindgut fermentation and forestomach fermentation, which of the following statements is true?

a. The microbial populations are considerably different, but the products of digestion are the same
b. The microbial populations are the same, but the products of digestion are considerably different
c. Both the microbial populations and the digestion products are similar
d. Structural carbohydrates of plants are not digested by hindgut fermentation

97. The three VFAs—acetate, propionate, and butyrate—are:

a. Net-reaction products of the fermentative action of the entire rumen biomass
b. The individual products of cellulose, starch, and hemicellulose digestion, respectively
c. The individual products of bacterial, protozoal, and fungal digestion, respectively
d. Volatile products that leave the rumen with the gas phase during eructation

98. The eructation reflex:

a. is initiated by distension of the reticulum
b. is initiated by vagal afferents that sense distension of the dorsal rumen by gas
c. is a caudo-cranial contraction in order to drop the fluid level around the cardia region and to remove the rumen gases
d. allows the cow to bring large particle material from the rumen to the mouth

99. The rumination reflex:

a. is initiated by presence of a fibrous material that floats on the rumen fluid

b. includes regurgitation

c. includes eructation

d. is a contraction which start in the caudal rumen and move forward from the caudo-dorsal blind sac in order to drop the fluid level around the cardia region

100. Reticular groove reflex:

a. closes the reticulo-omasal orifice and avoids the passage of cold milk into the omasum

b. shunts the milk from the esophagus directly into the omasum in order to avoids having milk enter the rumen

c. is stimulated by suckling action and the presence of milk proteins

d. is blocked by milk proteins and electrolytes

III. PATHOPHYSIOLOGY

1. Increased ESR in inflammation is the consequence of:
    a. decrease in albumin
    b. decrease in alpha-globulins
    c. leukopenia
    d. increased red blood cell count

2. Early increase of permeability in the inflammatory focus is achieved under the action of:
    a. prostaglandins and serotonin
    b. bioactive lipids
    c. interleukin-1
    d. histamines

3. Mediators with a vasodilator role in the inflammatory focus are the following:
    a.histamine and serotonin
    b.adrenaline
    c.noradrenaline
    d. acetylcholine

4. Activation of membrane phospholipase A_2 in phagocytes results in the following reactions:
    a. limiting the release of lysophospholipids
    b. decreased prostaglandin synthesis
    c. limitation of vasculo-exudative and chemotactic phenomena
    d. increased bioactive lipids with vasculo-exudation

5. Amplification of vasculo-exudative phenomena in the inflammatory focus are the result of the following interventions:
    a. increased glucocorticoid concentration
    b. decreased concentration of kinins and prostaglandins
    c. increased concentration of bioactive lipids
    d. decrease in histamine

6. Blocking the cyclooxygenase pathway results in:
    a. decrease in vasculo-exudative and chemotactic phenomena
    b.pro-inflammatory effect
    c.increased permeability in the microcirculation
    d.increase in vasculo-exudative and chemotactic phenomena

7. Active hyperemia in the first phase of acute inflammation explains:
   a. hyperemia, heat, pulsatile sensation
   b. hyperemia, heat, pain, leukopenia
   c. hyperemia, heat, edema, anemia
   d. hypovolaemia

8. Generally at the inflammatory focus the chemical mediators of inflammation produce:
   a. increased vascular permeability
   b. decreased blood flow
   c. decreased blood flow and vascular permeability
   d. increased hydrostatic pressure

9. General reactions in inflammation are as follows:
   a. hypothermia
   b. decreased hepatic glycoprotein secretion
   c. leukocytosis
   d. decreased synthesis of proteases and serpins

10. In the inflammatory focus the activation of factor XII Hageman determines:
   a. release of prostaglandins
   b. activation of arachidonic acid metabolites
   c. activation of the complementary cascade, coagulation and fibrinolysis systems, plasma kinin system
   d. cytokine release

11. Interleukin 1, also called granulocyte pyrogen, is involved in inflammation by:
   a. increased hepatic glycoprotein secretion
   b. increased secretion of serpins
   c. decreased leukocyte production
   d. inhibition of hypothalamus function and hypothermia

12. The inflammatory (phlogistic. focus is characterized by:
   a. ischemia and stasis
   b. neutrophilia
   c. alterative, vasculoexudative and proliferative phenomena
   d. alteration of its own proteins, vasodilation and increased permeability

13. The causes of inflammation are represented:
   a. only by the action of biotic, exogenous factors
   b. only by the action of abiotic, exogenous and endogenous factors
   c. all biotic and abiotic factors causing tissue damage
   d. all exogenous and endogenous factors that cause tissue damage

14. In acute septic or aseptic inflammation, the following reactions occur:
    a. increased acute phase proteins of hepatic origin
    b. leukocytosis with neutrophilia
    c. leukopenia with lymphocytosis
    d. VSH growth.

15. Pain in inflammation is the result of the action of the following mediators:
    a. histamines
    b. serotonin
    c. bradikinin
    d. bioactive lipids

16. In the inflammatory phase:
    a. inflammatory exudate is formed
    b. it prepares the ground for the formation of inflammatory exudate
    c. maximum phagocyte diapedesis occurs
    d. vasculoexudation is triggered

17. The first cells activated in inflammation are:
    a. histamine-releasing mast cells
    b.serotonin-releasing platelets
    c. neutrophils, the cells of the attack phase
    d. lymphocytes, antigen-presenting cells

18. In inflammation of allergic nature is found:
    a. increase in eosinophils
    b. eosinophilia
    c. neutrophilia
    d. lymphocytopenia

19. Among the consequences of the inflammatory phase are:
    a. an active hyperemia produced predominantly by nervous mechanism
    b. an active congestion produced predominantly by nervous mechanism
    c. an active hyperemia initiated by the intervention of mediators of lipid origin
    d. ischemia and stasis

20. The onset phase of inflammation is characterized by:
    a. release of serotonin and arachidonic acid
    b. degranulation of mast cells and release of bioactive lipids
    c. alteration of their own proteins, increase in the caliber and permeability of small vessels, release of histamine and serotonin
    d. alteration of their own proteins, vasculoexudation

21. The shock is:
    a. a disease
    b. a syndrome
    c. a serious disorder of the whole body
    d. an adaptive change

22. From a pathophysiological point of view shock is:
    a. a disorder of the uniform distribution of blood in the body
    b. a hypervolemia
    c. a hyperperfusion
    d. a predominantly anabolic reaction

23. Among the definite causes of shock are:
    a. all polyglobulias
    b. severe trauma
    c. anaemia
    d. small haemorrhages

24. The central pathophysiological element of any form of shock is:
    a. decrease in effective circulating blood volume
    b. increased effective circulating blood volume
    c. decrease in total blood volume
    d. true hypervolemia

25. Depending on the mechanism the shock can be:
    a. hemorrhagic, anaphylactic, cardiac
    b. hypovolemic, vasogenic, cardiogenic
    c. reversible, irreversible
    d. toxic, neurogenic

26. Adaptive-compensatory reactions in shock are aimed at the following:
    a. increased blood volume, vasoconstriction, increased cardiac output
    b. autotransfusion dependent on predominantly vagal reaction
    c. vasodilation, hypotension, hypoperfusion
    d. increased diuresis by osmotic mechanism

27. In all types of shock the starting point of decompensation is:
    a. disorders of the vasomotor centre with apparent hypovolaemia
    b. microcirculation disorders
    c. ph increase
    d. hyperkalemia secondary to lactic acidosis

28. Microcirculation disturbance in shock is the consequence:
    a. vasodilator action of catecholamines
    b. disturbance of the activity of the vasomotor centres
    c. hemodynamic and metabolic disorders that are interrelated
    d. increasing the water balance

29. In shock cell perfusion is most faithfully mirrored by:
    a. pH and plasma lactic acid concentration
    b. blood pressure value
    c. extracellular potassium concentration
    d. natremia value

30. The following humoral changes occur as a result of metabolic disorders in shock:
    a. hyperglycemia, hyperlactacidemia, hypolipemia, hypernatremia
    b. hypoglycemia, hyperlipidemia, hyperlactacidemia, hyponatremia, hyperpotassemia
    c. hypoglycemia, hypolipidemia, hypolactacidemia, hypernatremia, hyperpotassemia
    d. hyperglycemia, hyperlipidemia, hypolactacidemia

31. The shock is:
    a. a disease
    b. a syndrome
    c. a serious disorder of the whole body
    d. a serious alteration of all levels of integration of the body

32. The definite causes of shock are the following:
    a. all polyglobulias
    b. severe trauma
    c. extensive burns, large hemorrhages
    d. small haemorrhages

33. Hyperlactacidaemia in shock represents:
    a. a treatment modification index
    b. an irreversibility factor of the shock
    c. an index directly proportional to the severity of the shock
    d. is an indicator of the restoration of balance

34. The irreversible shock phase is characterized by the following changes:
    a. collapse of blood pressure
    b. alkalosis phenomena
    c. activation of lysosomal enzymes and autodigestion
    d. increased vascular tone

35. All types of shock start with a:
    a. severe metabolic disorder with alkalosis
    b. serious hemodynamic alteration
    c. serious circulatory impairment
    d. serious disorder of the vasomotor centres

36. The pathophysiological mechanism in shock is:
    a. altered blood pooling in all types of hypovolaemia
    b altered blood distribution only in true hypovolemia
    c. altered blood distribution in both true and apparent hypovolemia
    d. altered blood distribution secondary to hypervolemia

37. Changes in protidic metabolism in shock are as follows:
    a. amino acid growth
    b. ammonia increase
    c. decrease in albumin
    d. dysproteinemia

38. In shock cell perfusion is most faithfully mirrored by:
    a. pH level
    b. plasma concentration of lactic acid
    c. blood pressure value
    d. extracellular potassium concentration

39. In shock, hemodynamic disturbances in the microcirculation are dependent on:
    a. total blood volume
    b. activity of vasomotor centres
    c. local acidosis
    d. increased acid production

40. The consequences of metabolic acidosis in shock include the following:
    a. stimulation of interleukin release, worsening hemodynamics
    b. increased tendency to disseminated intravascular coagulation
    c. decreased myocardial contractile force
    d. release of lysosomal enzymes

41. The febrile reaction is:
    a. a general non-specific adaptation-defence reaction of the body
    b. a disturbance of the thermogenesis-thermolysis balance by increasing heat production
    c. a derangement of the heat balance due to inefficient thermolysis
    d. a disturbance of the thermogenesis-thermolysis balance due to increased thermogenesis

42. The following factors have a pyretogenic effect:
    a. histamine
    b. bacteria, fungi
    c. kinins
    d. catabolic hormones

43. The origin of endogenous pyrogen is:
    a. leukocyte
    b. erythrocyte
    c. hypothalamic
    d. sanguine

44. The febrile reaction is triggered by:
    a. overheated and humid environment
    b. action of pyretogenic factors
    c. catabolic hormone discharges
    d. protease action

45. For the state period of the febrile reaction are characteristic:
    a. decrease in thermolysis
    b. restoring the thermogenesis-thermolysis balance
    c. intensification of thermogenesis
    d. increased thermogenesis

46. The temperature rise phase of the febrile reaction is characterized by:
    a. vasoconstriction, horipilation, squatting, shivering
    b. preservation of thermoregulation capacity
    c. adaptation reactions to the warm environment
    d. decreased thermogenesis and increased thermolysis

47. The mechanism of overheating is represented by:
    a. functional restructuring of the thermoregulation centre
    b. decrease in thermolysis
    c. amplification of thermogenesis
    d. decreased thermogenesis and increased thermolysis

48. In the phase of rising temperature in the febrile reaction occurs:
    a. increased thermolysis
    b. increased thermogenesis and decreased thermolysis
    c. peripheral vasodilation
    d. peripheral vasoconstriction

49. In hypothermia the thermogenesis-thermolysis imbalance has the following causes:
    a. excessive drop in ambient temperature
    b. decreased function of catabolic hormones
    c. increased anabolic activity
    d. increased function of catabolic hormones

50. The adaptive reactions in overheating are:
    a. stimulating thermolysis
    b. stimulating thermogenesis
    c. peripheral vasodilation
    d. decrease in heat loss

51. Peripheral vasodilation as an adaptive mechanism in hyperthermia has the following consequences:
    a. hemoconcentration with hypovolemia
    b. dehydration and haemoconcentration
    c. dyserythropoietic anemia
    d.negative water balance

52. The etiology of febrile reaction is represented:
    a. only by the action of biotic factors
    b. from the action of biotic and abiotic factors that cause alteration of their own proteins
    c. all factors that produce tissue alteration and inflammation
    d. only by the action of abiotic factors

53. At the origin of fever from inflammation are:
    a. interleukins released mainly by macrophages
    b. glucocorticoids secondary to hypothalamic-pituitary-adrenal stimulation
    c. pyretogenic cytokines
    d. histamine action

54. Mild to moderate increases in temperature in the febrile reaction are:
    a. unfavourable because it overloads the activity of some systems
    b. favourable because they stimulate the body's adaptive capacity
    c. favourable because they decrease digestive activity
    d. favourable by stimulating non-specific and specific defence mechanisms

55. Pyrogenic cytokines act:
    a. in the medullary adrenals with increased adrenaline concentration
    b. directly on bacteria and viruses, which it inactivates
    c. at the level of the heat centers in the hypothalamus by changing the set-point
    d. in the hypothalamic thermostat producing a functional restructuring

56. Hyperglycemia may be the result of the following changes:
    a. increased activity of hyperglycaemic systems
    b. increased activity of hypoglycaemic systems
    c. increased insulin concentration
    d. decreased glycogenolysis

57. The etiopathogenesis of chronic hyperglycemia in insulin-dependent diabetes mellitus is represented by :
    a. pancreatic beta cell alteration
    b. alterations of the liver synthases
    c. increased insulin concentration
    d. cellular insulin receptor disorders

58. The etiopathogenesis of chronic hyperglycemia in insulin-dependent diabetes mellitus is represented by :
    a. pancreatic beta cell alteration
    b. alterations of the liver synthases
    c. increased insulin concentration
    d. cellular insulin receptor disorders

59. Insulin deficiency in insulin-dependent diabetes mellitus may be the result:
    a. Insufficient insulin signal
    b. alterations of pancreatic alpha cells
    c. disorders of the liver synthases
    d. all situations

60. Insulin resistance of peripheral tissues can occur by:
    a. disorders in insulin-receptor interaction
    b. disorders of the liver synthases
    c. anaerobic glycolysis disorders
    d. all situations

61. Acute complications of chronic hyperglycemia in diabetes are:
    a. ketoacidosis, osmotic polyuria, extracellular dehydration
    b. Metabolic Alkalosis
    c. global hyperhydration
    d. oligoanuria

62. Hypoglycaemia can result from the following actions:
    a. increased insulin
    b. decrease in the amount of insulin
    c. use of low proportions of glucose post-stressively
    d. all situations

63. Hypoglycemia can be the consequence:
    a. decrease in glycogenolysis
    b. increased neoglucogenesis
    c. increased glycogenolysis
    d. increased glycogenolysis and neoglucogenesis

64. The etiopathogenesis of chronic hyperglycemia in insulin-dependent diabetes mellitus is represented by :
    a. pancreatic beta cell alteration
    b. alterations of the liver synthases
    c. lower insulin concentration
    d. cellular insulin receptor disorders

65. The etiopathogenesis of chronic hyperglycemia in insulin-dependent diabetes mellitus is represented by :
    a. insulin deficiency
    b. inability of peripheral tissues to respond to insulin
    c. increased insulin concentration
    d. cellular insulin receptor disorders

66. Insulin resistance of peripheral tissues can occur by:
    a. disorders in insulin-receptor interaction
    b. glucose transporter disorders
    c. disorders in the enzyme machinery involved in glucose utilization
    d. active congestion

67. Insulin deficiency in insulin-dependent diabetes mellitus may be the result:
    a. Insufficient insulin signal
    b. insulin secretion modified quantitatively and qualitatively
    c. insulin binding with some proteins
    d. true hypovolemia

68. Acute complications of chronic hyperglycemia in diabetes are:
    a. ketoacidosis
    b. osmotic polyuria
    c. hypertonic extracellular dehydration
    d. metabolic alkalosis

69. Hypoglycaemia can result from the following actions:
    a. increased insulin
    b. decrease in the amount of insulin
    c. increased use of glucose, post-meal
    d. increased secretion of insulin-like hormones

70. Hypoglycemia can be the consequence:
    a. decrease in glycogenolysis
    b. decrease in neoglucogenesis
    c. increased glycogenolysis
    d. decreased glycogenolysis and neoglucogenesis

71. Dehydration is the result:
    a. an insufficient supply or significant losses at the hydro-electrolytic level
    b. a positive water balance
    c. significant erythropoietic disorders
    d. hyperaldosteronism

72. Increase in hematocrit, plasma protein, intracellular compartment concomitant with decrease in plasma volume means:
    a. isotonic dehydration
    b. hypotonic dehydration
    c. hypertonic dehydration
    d. global hyperhydration

73. Decrease in hematocrit, plasma proteins, intracellular compartment concomitant with increase in plasma volume means:
    a. hypotonic hyperhydration
    b. hypertonic dehydration
    c. hypertonic hyperhydration
    d. hypotonic dehydration

74. Lack of thirst is specific to the following water-electrolyte balance disorder:
    a. isotonic extracellular dehydration
    b. hypertonic and hypotonic extracellular dehydration
    c. hypotonic extracellular dehydration
    d. cellular dehydration

75. Compensatory mechanisms in isotonic dehydration are:
    a. vasoconstriction, increased blood volume, increased heart activity
    b. vasodilation, increased parasympathetic activity
    c. hyposecretion of ADH and aldosterone
    d. increased diuresis

76. Mechanisms of oedema include:
    a. increased intravascular hydrostatic pressure
    b. increased intravascular oncotic pressure
    c. increased oncotic pressure in hyperalbuminemia
    d. decrease in hydrostatic pressure

77. The consequences of hypotonic hyperhydration are:
    a. global hyperhydration
    b. cellular dehydration
    c. extracellular hyperhydration and cellular dehydration
    d. dyshidria

78. The consequences of hypocalcaemia on the body are
    a. increased neuromuscular excitability
    b. decrease in clotting time
    c. soft tissue calcifications
    d. decreased excitability

79. The consequences of hyperkalemia on the body are:
    a. metabolic disorders translated by metabolic alkalosis
    b. digestive disorders
    c. arrhythmias
    d. true hypovolemia

80. Consequences of hyperphosphatemia on the body:
    a. tetanic contractions secondary to hypocalcaemia
    b. haematological changes characterised by a disorder of the structure and function of erythrocytes
    c. metabolic changes translated by metabolic acidosis
    d. hypercalcaemia

81. Among the coping mechanisms in hypovolemia are:
    a. increased secretion and release of ADH
    b. stimulation of the renin-angiotensin-aldosterone system
    c. decreased renal reabsorption
    d. decreased cardiac activity

82. General mechanisms of oedema include:
    a. increased vascular permeability and hydrostatic pressure
    b. hypoalbuminemia
    c. actual hypovolaemia
    d. relative hypovolaemia

83. The consequences of hypocalcaemia on the body are
    a. increased neuromuscular excitability
    b. blood clotting disorders
    c. soft tissue calcifications
    d. decreased excitability

84. Consequences of hyperphosphatemia on the body:
    a. tetanic contractions secondary to hypocalcaemia
    b. haematological changes characterised by a disorder of the structure and function of erythrocytes
    c. metabolic changes translated by metabolic acidosis
    d. hypocalcaemia

85. The consequences of hypotonic hyperhydration are:
    a. global hyperhydration
    b. cellular dehydration
    c. extracellular and cellular hyperhydration
    d. dyshidria

86. Acid-base balance disorders can be:
    a. respiratory and metabolic
    b. only of respiratory origin
    c. of metabolic origin only
    d. of diverse origin

87. Respiratory acidosis is the consequence:
    a. increased ventilatory function
    b. decrease in ventilatory function
    c. increased production of non-volatile acids
    d. decrease in base production

88. Causes of respiratory acidosis include:
    a. blood marrow disorders
    b. disorders of the thoraco-pulmonary system
    c. stimulation of catabolism
    d. some nephropathies

89. Hypercapnia from respiratory acidosis may be accompanied by :
    a. onset of hypoxemia
    b. the onset of renal acidosis
    c. the onset of a metabolic alkalosis
    d. decrease in red blood cell count

90. Respiratory alkalosis is the consequence:
    a. increase in base production
    b. decrease in the production of non-volatile acids
    c. hyperventilation
    d. hypoventilation

91. Causes of respiratory alkalosis are:
    a. hypothalamus stimulation in hyperthermia
    b. stimulation of the erythrocyte system
    c. inhibition of respiratory centers
    d. increased oxygen pressure in the atmospheric air

92. Metabolic acidosis is the result of:
    a. digestive disorders
    b. blood disorders
    c. pulmonary congestion
    d. respiratory disorders

93. The mechanisms of metabolic acidosis are:
    a. increased production of non-volatile acids
    b. increased production of bases
    c. increased elimination of acids at the renal level
    d. decrease in carbon dioxide concentration

94. The primary element in metabolic alkalosis is:
    a. increase in bicarbonates
    b. decrease in hydrogen ion concentration
    c. decrease in bicarbonates
    d. increased hydrogen ion concentration

95. Causes of respiratory acidosis can be:
    a. lesions in the respiratory centres
    b. disorders of the thoraco-pulmonary apparatus
    c. stimulation of catabolism
    d. some nephropathies

96. Hypercapnia from respiratory acidosis may be accompanied by:
    a. onset of hypoxemia
    b. the onset of lactic acidosis
    c. the onset of a metabolic alkalosis
    d. decrease in red blood cell count

97. Causes of respiratory alkalosis are:
    a. hypothalamus stimulation in hyperthermia
    b. stimulation of the limbic system
    c. stimulation of respiratory centres
    d. decrease in oxygen pressure in the atmospheric air

98. Metabolic acidosis is the result of:
    a. digestive disorders
    b. renal disorders
    c. tissue hypoxia
    d. respiratory disorders

99. The mechanisms of metabolic acidosis are:
    a. increased production of non-volatile acids
    b. increased loss of bases
    c. decreased elimination of acids at the renal level
    d. decrease in carbon dioxide concentration

100. Metabolic acidosis is the result of:
    a. digestive disorders
    b. renal disorders
    c. tissue hypoxia
    d. excessive stimulation of lipolysis in insulin deficiency

IV. MICROBIOLOGY

1. When examining the morphological characters, they are grouped into piles (clusters):
    a. Streptococci
    b. Staphylococci
    c. Mycobacteria
    d. Listeria

2. They are psychrophilic (cryophilic) bacteria:
    a. Streptococci
    b. Staphylococci
    c. Mycobacteria
    d. Listeria

3. It grows on the usual aerobic media:
    a. Streptococci
    b. Staphylococci
    c. Mycobacteria
    d. Clostridia

4. For veterinary and human pathology, the most important species of the Listeria genus is:
    a. L. Ivanovii
    b. L. denitrificans
    c. L. monocytogenes
    d. L. grayi

5. In sheep and goats, listeriosis manifests itself through:
    a. Respiratory disorders
    b. Nervous and septicemic forms
    c. Abortions
    d. Digestive disorders

6. Refrigerating pathological materials is an enrichment method (Gray) for:
    a. Streptococci
    b. Staphylococci
    c. Listeria
    d. Mycobacteria

7. The erysipelas bacillus shows the following cultural characters (in fresh cultures):
   a. intense turbidity, abundant deposit
   b. weak turbidity, upon stirring waves with the appearance of cigarette smoke
   c. small, fine, transparent colonies (type S)
   d. large, rough, pigmented colonies

8. Forms small, non-pigmented S-type colonies:
   a. Streptococci.
   b. Staphylococci
   c. Listeria
   d. Clostridia

9. Which of the microorganisms listed below are exclusively parasitic, multiplying intracellularly:
   a. Clostridium tetani
   b. Clostridium botulinum
   c. Mycobacterium bovis
   d. Mycobacterium tuberculosis

10. The etiological agent of emphysematous carbuncle in ruminants is:
   a. Clostridium septicum
   b. Clostridium novy
   c. Clostridium chauvey
   d. Bacillus anthracis

11. Cilia (flagella) are organelles:
   a. Present in all species of bacteria
   b. Found only in some species of bacteria
   c. With role in motility
   d. With role in attachment

12. The cell wall represents a component of the bacterial cell:
   a. Found in all species of bacteria
   b. Found in the majority species of bacteria
   c. Found in a small number of bacteria
   d. Present only in mycoplasmas

13. Bacteria that lack a cell wall belong to the class:
   a. Firmicutes
   b. Gracilicutes
   c. Mollicutes
   d. None of the above

14. What structure gives resistance to the bacterial cell wall:
    a. Lipopolysaccharide (LPS)
    b. Peptidoglycan (murein)
    c. Lipoproteins
    d. Bacterial lipid components

15. The lipopolysaccharide component (LPS) in the outer membrane of the cell wall in Gram-negative bacteria fulfils the role of:
    a. Enzyme with role in metabolism
    b. Antiphagocytic factor
    c. Endotoxin
    d. Adherence

16. In the presence of penicillin or lysozyme they turn into protoplasts:
    a. Gram-positive bacteria
    b. Gram-negative bacteria
    c. Acid-fast bacteria
    d. Bacteria that have a capsule

17. In the presence of penicillin or lysozyme they turn into spheroplasts:
    a. Gram-positive bacteria
    b. Gram-negative bacteria
    c. Acid-fast bacteria
    d. Bacteria that have a capsule

18. They have the capacity to resynthesize their cell wall:
    a. Spheroplasts
    b. Protoplasts
    c. Both spheroplasts and protoplasts
    d. None of the above

19. Which of the components of the bacterial cell ensures its shape?
    a. Capsule
    b. Cell wall
    c. Cytoplasmic membrane
    d. Glycocalyx

20. The morpho-chemical structure of the cell wall in various groups of bacteria is responsible for:
    a. the shape and grouping of bacterial cells
    b. the thickness and degree of rigidity of the wall
    c. different way of staining bacteria by Gram and Ziehl-Neelsen methods
    d. resistance to harmful environmental factors

21. Which of the following bacterial cell components are not found in all bacteria:
    a. Cytoplasmic membrane
    b. Genome (nucleoid, chromosome)
    c. Capsule
    d. Cilia (flagella)

22. Which of the following organelles are found in the cytoplasm of the bacterial cell:
    a. Golgi body
    b. Mitochondria
    c. Palade particles
    d. Ribosomes

23. Which of the following organelles are absent in the cytoplasm of the bacterial cell:
    a. Endoplasmic reticulum
    b. Golgi body
    c. Ribosomes
    d. Mitochondria

24. Bacteria can be found in nature:
    a. Only in the vegetative state (the bacterial cell itself)
    b. Only in the form of spores
    c. Both in vegetative state and in the form of spores
    d. Only in the parasitic state present only in the host organism

25. The nucleus of the bacterial cell (nuclear genetic material, nucleoid) consists of:
    a. 2-4 chromosomes, single-stranded DNA, and is bounded by the membrane
    b. A single chromosome, double-stranded DNA and is not separated by a nuclear membrane
    c. RNA and polyglucides
    d. A single chromosome, single stranded DNA and is not separated by a nuclear membrane

26. Plasmids are specific structures of the bacterial cell, which consist of:
    a. Invagination of the cytoplasmic membrane
    b. Adhesion organs
    c. Small molecules of double-stranded DNA
    d. Forms of bacterial resistance

27. The capsule protects bacteria against:
    a. Phagocytosis (in pathogenic bacteria)
    b. High temperatures
    c. Desiccation (dryness)
    d. Does not fulfill any protection role

28. The mobility of bacteria is ensured by:
    a. Pili
    b. Fimbriae
    c. Cilia
    d. Flagella

29. The fimbriae have a role in:
    a. Absorption of nutrients from culture media
    b. Fixation of bacteria on the surface of epithelia and other solid substrates
    c. Mobility
    d. Resistance of bacteria

30. Cilia (flagella) have a role in:
    a. Adhesion of the bacterial cell to various substrates
    b. Mobility
    c. Transfer of genetic material in the conjugation process
    d. Multiplication of bacteria

31. The majority of bacteria multiply by:
    a. Spores
    b. Direct division (scissyparity)
    c. Budding
    d. Elementary bodies

32. The bacterial spore represents:
    a. The multiplication process of most bacterial species
    b. The form of preservation of bacteria in unfavorable environmental conditions
    c. A biological form of bacteria in nature
    d. A form of resistance found only in certain bacteria

33. Bacterial resistance to antibiotics induced by R-factor (plasmids) is of the type:
    a. “One-steep”
    b. “Multi-steep”
    c. Not transmissible from one bacterial strain to another by conjugation
    d. Transmissible by the conjugation phenomenon

34. R-factor (plasmids):
    a. Are transmitted between bacterial strains of the same species and between related species
    b. They are fixed, they cannot be lost from the bacterial cell
    c. Can be removed spontaneously from the bacterial cell, which is why it is mandatory to inoculate pathological materials immediately after sampling
    d. Cannot be transmitted by the conjugation phenomenon

35. In which of the multiplication phases, characterized by the total absence of cell division, the bacterial cells present atypical forms and low tinctorial affinity, causing the examinations performed for the purpose of identification to lead to errors:

a. The log phase (exponential)
b. The stationary phase
c. The death phase
d. The lag phase (adaptation)

36. The bacterial lawn results from:

a. Confluence of colonies in case of abundant inoculation
b. Invasion of the environment by mobile bacteria
c. Rapid multiplication of encapsulated bacteria
d. Rapid multiplication of fimbriate bacteria

37. Through germination, from a spore, results:

a. A single vegetative cell
b. A double number of vegetative bacterial cells
c. Two spores
d. Numerous vegetative bacterial cells

38. In the cytoplasm of bacterial cells there may be small fragments of DNA encoding antibiotic resistance, which are called:

a. Mesosomes
b. Plasmids
c. Ribosomes
d. Vacuoles

39. The multiplication of bacteria in liquid culture media goes through the following phases:

a. Lag phase (adaptation)
b. Log phase (exponential)
c. Stationary phase
d. Death phase

40. They are able to multiply at low temperatures, close to zero degrees Celsius:

a. Cryophilic bacteria
b. Psychrophilic bacteria
c. Halophilic bacteria
d. Thermophilic bacteria

41. The bactericidal effect of the high temperatures used in sterilization is mainly due to:

a. Dehydration of bacterial cells
b. Denaturation of cellular proteins
c. Destruction of the cell wall
d. Distortion of the bacterial genome

42. Bacteria capable of multiplying at temperatures between 80^0 C-105^0 C are called:
    a. Mesophilic bacteria
    b. Hyperthermophilic bacteria
    c. Osmophilic bacteria
    d. Psychrophilic bacteria

43. In terms of temperature, most pathogenic bacteria are:
    a. Psychrophilic
    b. Cryophilic
    c. Mesophilic
    d. Thermophilic

44. Bacterial spores are destroyed at the temperature of:
    a. 60 80^0 C dry heat
    b. 100-120 ^{0} C moist heat
    c. 140-180 ^{0} C dry heat
    d. 80-100 ^{0} C dry heat

45. The native (resident) microbiota of the healthy animal organism populates:
    a. The skin
    b. Digestive tract
    c. Parenchymal organs (liver, spleen, kidneys)
    d. Lower genitourinary tract

46. The relationship between the rumen microbiota and the host animal is of the following type:
    a. Symbiotic
    b. Commensal
    c. Antagonistic (conflictual)
    d. Indifferent

47. Free coagulase confers pathogenicity to staphylococci by:
    a. inhibition of phagocytosis
    b. lysis of the fibrin barrier around focal inflammatory areas
    c. destruction of red blood cells
    d. toxicity

48. Antiphagocytic factors that inhibit phagocyte digestion are:
    a. bacterial capsule, staphylococci free coagulase
    b. Trehalose 6,6'-dimycolate
    c. "cord-factor" in bacteria of the genus Mycobacterium
    d. collagenase

49. Bacterial toxins responsible for digestive disorders encountered in food poisoning are:
    a. collagenase
    b. hemolysins
    c. enterotoxins
    d. leukocidins

50. Bacterial enzymes with necrotic effect are:
    a. diphtheria toxin
    b. lecithinase
    c. hemolysins
    d. leukocytes

51. Bacterial hyaluronidases and fibrinolysins are responsible for:
    a. inhibition of phagocytosis
    b. diffusion of bacteria into surrounding tissues
    c. implicationin food poisoning
    d. necrotic effect on tissues

52. Synthesizes carotenoid pigments (white → orange), non-diffusible in the culture media:
    a.Streptococci
    b.Staphylococci
    c. E. coli
    d. Mycobacteria

53. Selective media for staphylococci contain:
    a.sodium azide
    b.NaCl 6.5%
    c.brilliant green
    d.ovalbumin

54. Which of the following are halophilic bacteria:
    a. Clostridia
    b. Leptospira
    c. Staphylococci
    d. Enterococci

55. Staphylococci have the following characteristics:
    a. form small, transparent, unpigmented colonies on solid media
    b. form pigmented colonies, with white or different shades of yellow pigment
    c. in smears they appear grouped in clusters (grape-like)
    d. in smears they appear grouped in chains

56. The etiological agent of sheep gangrenous mastitis (Blue Bag) is:
a. *Staphylococcus aureus*
b. *Streptococcus agalactiae*
c. *Clostridium perfringens*
d. *Mycobacterium bovis*

57. The main pathogenicity of *Bacillus anthracis* is:
a. the spore, due to thermal resistance
b.the capsule, which prevents phagocytosis (antiphagocytic role)
c.cilia, due to mobility
d. coagulase

58. The diagnosis of anthrax in live animals is made by:
a. Heated Ascoli reaction
b. abundant blood cultures
c. coprocultures
d. Cooled Ascoli reaction

59. *Bacillus anthracis* has the following cultural characteristics:
a. in liquid medium abundant flaky deposit, discrete or absent turbidity
b. on nutrient agar large smooth and glossy S-type colonies
c. on nutrient agar large opaque colonies, unpigmented type R (rough)
d. in broth accentuated turbidity and lack of deposit

60. From a morphological point of view, *Bacillus anthracis*is:
a. a Gram-negative cocobacillus, frequently stained bipolar, not encapsulated
b. a Gram-positive rod, large, with severed ends, grouped in chains, encapsulated
c. a large Gram-positive rod, with the severed ends, grouped in chains, not encapsulated
d. a large Gram-positive rod with rounded ends, grouped in chains, encapsulated

61. For the isolation of bacteria of the genus *Clostridium*, the pathological materials are inoculated on what type of media:
a. hyperchlorinated
b. anaerobic
c. glycerinate, 2%
d. aerobic

62. Species of the genus *Clostridium* pathogenic by toxicity and virulence are:
a. *Clostridium tetani*
b. *Clostridium botulinum*
c. *Clostridium perfringens*
d. *Clostridium chauvei*

63. The only encapsulated and unciliated species of the genus *Clostridium* are:
    a. *Clostridium tetani*
    b. *Clostridium botulinum*
    c. *Clostridium perfringens*
    d. *Clostridium septicum*

64. The toxin produced by *Clostridium perfringens* is identified by:
    a. Ascoli reaction
    b. seroneutralization in mice
    c. inoculation loop test
    d. coagulase test

65. The spore in *Cl. tetani* is:
    a. centrally located and does not deform the vegetative form
    b. terminally placed and does not deform the vegetative form
    c. terminally placed and deforms the vegetative form (matchstick appearance)
    d. centrally located and deforms the vegetative form

66. *Escherichia coli* has the following morphological characteristics:
    a. Gram-negative cocobacillus, frequently stained bipolar, ciliated, fimbriate, non-sporulated
    b. Gram-negative cocobacillus, bipolar stained, unciliated, fimbriate, non-sporulated
    c. Gram-negative cocobacillus, bipolar stained, ciliated, non-fimbriate, non-sporulated
    d. Gram-positive cocobacillus, frequently bipolar stained, ciliated, fimbriate, non-sporulated

67. Escherichia coli has the following dyeing and biochemical characteristics:
    a. Gram negative, glucose (+), lactose, sucrose (+), indole (+), hydrogen sulfide (-), urease (-),
    b. Gram negative, glucose (-), lactose, sucrose (-) indole (+), hydrogen sulfide (-), urease (+),
    c. Gram positive, lactose (+), indole (-), hydrogen sulfide (+), urease (-)
    d. Gram positive, lactose, sucrose (+), glucose (+), indole (+), hydrogen sulfide (-), urease (-)

68. The mobility of leptospires is given by:
    a. external cilia
    b.periplasmic endoflagella
    c.internal cilia
    d. pili

69. The examination of leptospires is usually carried out on:
    a. Gram-stained smears
    b. A smear slide with cover slip, dark field microscopy (with cardioid condenser)
    c. colored smears by the Giemsa method
    d. A smear slide with cover slip under an optical microscope with normal condenser

70. Leptospires are grown on:
    a. usual media (broth, nutritient agar)
    b. Korthof medium
    c. Uhlenuth medium
    d. on ovalbumin supplemented media

71. Which of the following bacterial forms are considered to be the main forms:
    a. The coccus
    b. The bacillus (rod)
    c. The vibrion
    d. The spirochaete

72. Species of the genus *Clostridium* pathogenic exclusively by toxicity are:
    a. *Clostridium tetani*
    b. *Clostridium botulinum*
    c. *Clostridium perfringens*
    d. *Clostridium chauvei*

73. Differentiation of *Staphlycoccus aureus* from other *Staphylococcus* species is achieved by:
    a. mannitol fermentation
    b. hemolysis test
    c. coagulase test
    d. catalase test

74. In smears made from pathological materials and cultures, the following bacteria are grouped into chains:
    a. *Streptococcus spp.*
    b. *Staphylococcus aureus*
    c. *Bacillus anthracis*
    d. *Bacillus cereus*

75. Species from the family *Bacillaceae*:
    a. are sporulated bacteria;
    b. are Gram negative
    c. all are encapsulated
    d. are Gram positive

76. Which of the following pathogens causes abortion in cattle and sheep:

a. *Campylobacter coli*
b. *Campylobacter sputorum*
c. *Campylobacter fetus subsp.fetus*
d. *Campylobacter jejuni*

77. It gives off a pleasant smell of linden flowers due to a volatile substance called aminoacetophenone and a blue-green pigment (diffuses in culture media) called fluorescein:

a. *Staphylococcus aureus*
b. *Brucella spp*.
c. *Pasteurella multocida*
d. *Pseudomonas aeruginosa*

78. *Pseudomonas aeruginosa* has the following cultural characteristics on solid media:

a. large pigmented colonies in yellowish white of carotenoid origin, not diffusible in the media
b. round colonies, pigmented in bluish green, diffusible in the media
c. gives off a pleasant odor due to aminoacetophenone
d. gives off a putrid odor due to the production of hydrogen sulfide

79. Bacteria from the genus *Brucella* show an increased tropism to:

a. the digestive tract
b. the respiratory system
c. the genital tract
d. the nervous system

80. Causes brucellosis in pigs:

a. *Brucella melitensis*
b. *Brucella abortus*
c. *Brucella suis*
d. *Brucella neotomae*

81. Which of the following bacteria form “R” type colonies in primary cultures:

a. *Staphylococcus spp.*
b. *Streptococcus spp.*
c. *Bacillus anthracis*
d. *Mycobacterium tuberculosis*

82. Bacteria from the genus *Mycobacterium:*

a. Cand be stained by the Ziehl-Neelsen method due to the lipids in the cell wall
b. Requires an incubation period of 24-48 hours
c. Requires an incubation period of 15-70 days
d. is stained by the Giemsa method

83. The species with the widest spectrum of pathogenicity from the genus *Mycobaterium* is:
    a. *M. bovis*
    b. *M. tuberculosis*
    c. *M. avium*
    d. *M leprae*

84. The pathogenicity factor in tuberculosis bacilli is represented by:
    a. the presence of the capsule,
    b. Trehalose 6,6'-dimycolate
    c. the presence of fimbriae
    d. the “cord” factor.

85. Pathogenic strains of *Mycobacterium* grow in:
    a. 10-15 days
    b. 15-30 days
    c. 30-90 days
    d. 1-2 days

86. Mycobacteria are grown on special ovalbumin-containing media such as:
    a. Lowenstein
    b. Levin
    c. Petragnani
    d. Chapman

87. Form “S” type colonies in primary cultures:
    a. *Staphylococcus spp.*
    b. *Streptococcus spp.*
    c. *Bacillus spp.*
    d. *Escherichia coli*

88. *Salmonella* pluripathogenic serotypes, with a broad spectrum of pathogenicity, are:
    a. *S. abortus ovis*
    b. *S. typhi*
    c. *S.enteritidis*
    d. *S. typhymurium*

89. The *Enterobacteriaceae* family groups bacteria whose natural ecological niche is:
    a.the soil
    b. skin and mucous membranes
    c. digestive tract (large intestine)
    d. respiratory mucosa

90. *Salmonella* immobile serotypes are:
a. *S. abortus equi*
b. *S. abortus ovis*
c. *S. gallinarum pullorum*
d. *S. enteridis*

91.Which of the following tests are used to determine the pathogenicity of staphylococci:
a. Catalase test
b. Hemolysis test
c. Citrated rabbit plasma coagulation test
d. Oxidase test

92. The following tests are used to differentiate staphylococci from other Gram-positive cocci:
a. oxidase test
b. catalase test
c. coagulase test
d. hemolysis test

93. The etiological agent of avian cholera and haemorrhagic sepsis in cattle is:
a. *Streptococcus zooepidemicus*
b. *Listeria monocytogenes*
c. *Pasteurella multocida*
d. *Pseudomonas aeruginosa*

94. In smears from pathological materials, is stained bipolar with methylene blue:
a. *Staphylococcus aureus*
b. *Pasteurella multocida*
c. *Mycobacterium spp.*
d. *Escherichia coli*

95. Among the bacteria studied, the following may be transmitted through dirty (contaminated) water and the following is examined onslide with slide cover preparations in the dark field:
a. streptococci
b. *Mycobacterium tuberculosis*
c. *Brucella spp.*
d. leptospires

96. The conduct of the bacteriological diagnosis in colibacillosis goes through the following stages:
a. Isolation of the strain from the pathological material
b. Identification of the isolated strain
c. Demonstration of the pathogenicity of the isolated strain
d. Classification of the strain into serogroups and serotypes

97. Which of the bacteria studied is considered the most mobile bacterium:

a. *E coli*
b. *Salmonella spp.*
c. *Proteus spp.*
d. *Pasteurella multocida*

98. Which of the following statements is true regarding the family *Enterobacteriaceae*:

a. The ecological niche is the digestive tract (large intestine);
b. It has an accentuated polymorphism, but the cocobacillary forms predominates
c. Ferments glucose, often with gas production
d. They are Gram negative, non-spore forming

99. Humans and horses are vaccinated for tetanus immunoprophylaxis with:

a. antitetanic serum
b. live attenuated vaccine
c. Tetanus anatoxin inactivated with formalin and heat
d. mutant strain 1190R

100. For differential diagnosis between *Escherichia coli* and other enterobacteriaceae, the following media are used:

a. Chapmann
b. Levin, MacConkey, Simmons
c. MIU, TSI
d. Lovenstein-Jensen, Petragnani

V. PHARMACOLOGY

1. 'Grey baby syndrome' is the adverse effect of:
    a. chloramphenicol
    b. kanamycin
    c. oxytetracycline
    d. penicillin

2. Atropine is used in pre-anesthesia to reduce:
    a. Convulsions
    b. Stress
    c. Secretion of the salivary glands
    d. Pain

3. Which of the following information about sodium glycopyrrolate are false:
    a. Induced tachycardia is less obvious compared to atropine
    b. Accelerates the motility of the small intestine in dogs
    c. Induces an exciting effect
    d. It is recommended in spasm of the abdominal viscera

4. Nicotinic receptor sites are found in all of the following locations, EXEPT:
    a. parasympathetic ganglia
    b. sympathetic ganglia
    c. skeletal muscle
    d. bronchial smooth muscle

5. One of the following statements is correct with respect to action of antibiotics on bacterial protein synthesis:
    a. chloramphenicol inhibits peptidyl transferase
    b. streptomycin inhibits transpeptidation
    c. erythromycin inhibits 30S ribosomal activity
    d. lincomycin inhibits the formation of initiation complex

6. Which of the following adrenergic agonists at clinical doses produces dilation of vessels in muscle, constriction of cutaneous vessels, and positive inotropic and chronotropic effects on the heart?
    a. Phenylpropanolamine
    b. Isoproterenol
    c. Epinephrine (adrenaline)
    d. Dobutamine

7. During the period of recovery from anesthesia, is attention paid to the following issues:
    a. Prevention of heat loss
    b. Evolution of the pupil and the position of the eyeballs
    c. Changing the position of the head
    d. Postoperative hydratation

8. Which of the following anesthetics does not sensitize the myocardium to catecholamines:
    a. Nitrogen oxide
    b. Methoxyflurane
    c. Enfluran
    d. Isoflurane

9. Which are the concentrations used in Isoflurane anesthesia:
    a. Induction 3 - 5%; 1-2% maintenance
    b. Induction 2.5 - 4.5%; maintenance 1-3%
    c. Induction 3.5 - 4.5%; maintenance 2 - 4%
    d. Induction 1.5 - 2.5%; maintenance 3 - 4%

10. Which the following statement is not correct about thiobarbiturates:
    a. Distributes rapidly in the brain, causing rapid anesthesia
    b. With their redistribution in muscle and fat, the concentration in the brain increases
    c. Post-narcotic sleep is shorter in species with rich adipose tissue
    d. Post-narcotic sleep is longer in species with little adipose tissue

11. Hypnotic substances have the following pharmacodynamic actions:
    a. Depressing on the CNS and promotes the installation of physiological sleep
    b. Stimulating on the CNS and promotes the installation of physiological sleep
    c. Decreased brain activity and motor capacity
    d. It does not act on the CNS

12. Which of the following statements is correct for tranquilizers?
    a. They can be used in the excitation phase of some nervous disorders
    b. Enhances anesthesia and/or local anesthesia
    c. Prevent operator shock
    d. They have a convulsive action

13. Neuroleptic-induced vegetative-lytic syndrome is characterized by?
    a. Actuation/excitation of the thermoregulatory center
    b. Anti-vomiting effect
    c. Increased appetite
    d. None of the options is correct

14. Which of the following statement is a correct about phenothiazine tranquilizers?
    a. They also have potent analgesic activity.
    b. They stimulate α1-adrenergic receptors to induce hypertension.
    c. Most of them are desirable restraining agents for aggressive dogs.
    d. They suppress emesis by blocking dopamine receptors in the chemoreceptor-trigger zone.

15. Which of the following statements about xylazine are true:
    a. Has the ability to eliminate ketamine-induced hypertension in dogs and cats
    b. It has a sedative action
    c. Induces muscle relaxant and analgesic effects
    d. The duration of local anesthesia is about 15-80 minutes

16. Which of the following statements about detomidine are true:
    a. Recommended for all animal species
    b. Induces xylazine-like cardiovascular disorders in horses
    c. Induces long-term sedation and analgesia
    d. Cannot be combined with ketamine or butophanol

17. IV administration of an α2-agonist produces all of the following pharmacological effects, EXCEPT:
    a. bradycardia
    b. increased GI motility
    c. transient hypertension
    d. diuresis

18. The α2-agonist with the most selectivity and potency for α2-receptors is:
    a. medetomidine
    b. detomidine
    c. romifidine
    d. xylazine

19. Which of the following statements about atipamezole (Antisedan®) are true:
    a. It is an α2 adrenoceptor agonist
    b. Neutralizes the pharmacodynamic effect of xylazine, detomidine, medetomidine and romifidine
    c. The dose of atipamezole is 4-5 times higher than the dose of anesthetic used
    d. No special attention should be paid to animals with heart failure and shock

20. Which of the following statements about medetomidine are true:
    a. Administered intravenously, it acts in maximum 2 minutes
    b. Induces bradycardia and bradypnea
    c. The intensity of the sedative and analgesic effects is not dose dependent
    d. Cannot be associated with opioids

21. Which of the following statements about ketamine are true:

a. Produces dissociative anesthesia
b. It has fast action without excitation phase
c. It has no analgesic qualities
d. It has a strong bronchodilator effect

22. Which of the following statements about tiletamine are true:

a. It is similar to ketamine, but with more intense effects at the same dosage
b. Do not combine with minor tranquilizers (diazepam, zolazepam, etc.)
c. It has no muscle relaxant qualities
d. May induce amnesia

23. Which one of the following statements concerning buprenorphine are true?

a. It is a partial agonist opioid with partial agonist activity at the μ-receptor and agonist activity at the κ-receptor.
b. It is an agonist–antagonist opioid with partial agonist activity at the μ-receptor.
c. It is a very potent μ-agonist used to immobilize nondomestic ungulates.
d. It is an α2-adrenoreceptor agonist in the central and peripheral nervous system.

24. Inhalant anesthetics vary in how quickly the alveolar concentration (blood concentration) will approximate the inspired concentration. Which one of the following anesthetics has the fastest rate of rise in alveolar concentration?

a. Sevoflurane
b. Desflurane
c. Nitrous oxide
d. Isoflurane

25. Which one of the following anesthetics is an NMDA receptor antagonist?

a. Thiopental
b. Propofol
c. Etomidate
d. Ketamine

26. Which injectable anesthetic is best suited for use in a small animal requiring an outpatient procedure?

a. Propofol
b. Pentobarbital
c. Thiopental
d. Tiletamine-zolazepam

27. Which of the following statements about propofol are true:
    a. The animal recovers quickly from anesthesia
    b. The duration of action in cats is longer than in dogs
    c. It has no analgesic qualities
    d. Has affinity for adipose tissue, risk of accumulation

28. In which situations is propofol recommended:
    a. When the aim is to perform a short-term or medium-term anesthesia
    b. When aiming for a fast and safe induction
    c. When aiming for rapid loss of consciousness
    d. None of the options is correct

29. Naloxone is a total antagonist for the group of medicines:
    a. Butyrophenone
    b. Benzodiazepines
    c. Alpha 2-agonists
    d. Opioids

30. Which of the following is the most frequently seen adverse effect of the prostaglandin inhibitors?
    a. Agranulocytosis
    b. Gastric ulcers
    c. Renal papillary necrosis
    d. Anemia

31. The antipyretic effect of an NSAID can result from all of the following except:
    a. Inhibition of prostaglandin synthesis in the central nervous system
    b. Dilation of the peripheral vasculature
    c. Sweating
    d. Lowering body temperature in both normal and febrile animals

32. All of the following concerning the pharmacological actions of aspirin are true, EXCEPT:
    a. Reversible inhibition of COX-1.
    b. Significant drug interaction with anticoagulants.
    c. GI ulceration and hemorrhage.
    d. Antiplatelet effects.

33. Which of the following is the correct statement concerning COX-2 inhibitors?
    a. They decrease platelet function
    b. They have greater analgesic activity than other NSAIDs
    c. Their anti-inflammatory activity is better than that of other NSAIDs
    d. They cause less gastric ulceration than other NSAIDs

34. Which of the following is an incorrect statement concerning the drug interactions of NSAID?

a. Concurrent use of a glucocorticoid is encouraged, since this practice will ensure better anti-inflammatory activity.
b. Concurrent use of diazepam may increase the activity of both drugs.
c. Concurrent use of gentamicin can increase nephrotoxicity of NSAID.
d. Concurrent use of two NSAIDs should be avoided.

35. Which of the following statements about diuretics are true:

a. Furosemide, ethacrynic acid and thiazides increase kaliuresis
b. Spironolactone prevents the reabsorption of sodium ions and the secretion of potassium and hydrogen in the distal tube
c. Mannitol (osmotic diuretic) causes a predominantly aqueous diuresis
d. None of the options is correct

36. Regarding the indications of thiazide diuretics, which are false information:

a. Chronic heart failure
b. Chronic liver and / or kidney disease
c. Acute heart failure
d. High doses cause hyperkalemia, hypernatremia and hypermagnesemia

37. About mannitol, which are true information:

a. It is indicated in the early stages of acute renal failure
b. It is recommended as an immediate treatment in acute intoxications with nephrotoxic substances
c. Not indicated in acute intoxications with aminoglycosides, barbiturates, acetylsalicylic acid.
d. It is indicated in cerebral edema and acute glaucoma crisis

38. About furosemide, which are true information:

a. Eliminate a large volume of isotonic or slightly hypotonic urine
b. Eliminates an increased amount of sodium, potassium, chlorine, calcium and magnesium ions
c. The increase in diuresis occurs quickly and is maintained for a short time;
d. All variants are incorrect.

39. Which of the following exemple is not a side effect of furosemide:

a. Dehydration
b. Electrolyte depletion (eg hyponatremia, hypochloremia, hypokalemia)
c. Azotemia
d. Pulmonary toxicity (eg acute respiratory distress syndrome)

40. About carbonic anhydrase inhibitors, which are the true information:

a. Sodium is no longer reabsorbed

b. Decreases urine volume

c. Decreases the alkaline reserve of the blood

d. It leads to the accumulation of H^+ in body fluids, acidosis occurs

41. In cases of severe generalized edema, which of the following fluid compartments is increased in volume?

a. Intracellular

b. Interstitial

c. Transcellular

d. Plasma

42. Fluid and electrolyte imbalance leading to dehydration, muscle weakness, hypokalemia, and CNS depression may result from high or prolonged dosage with:

a. Chlorothiazide

b. Amiloride

c. Furosemide

d. Theophylline

43. Regarding pimobendan, all the following are true, EXCEPT:

a. Elimination in the dog is primarily via hepatic metabolism.

b. The drug is often called an inodilator.

c. The drug has phosphodiesterase III inhibiting effects.

d. The drug substantially increases myocardial oxygen requirement while increasing contractility

44. Which of the following statements about pimobendan is correct?

a. It is an inodilator used in the treatment of chronic heart failure in dogs

b. It is a diuretic with beta-blocking properties

c. In cats, the half-life is almost three times shorter than in dogs

d. Increases survival time and improves quality of life in dogs with congestive heart failure

45. A purely venous vasodilator would be most useful in treating which of the following conditions?

a. Chronic, stable dilated cardiomyopathy

b. Aortic regurgitation from endocarditis

c. Cardiac tamponade with ascites

d. Mitral regurgitation with acute pulmonary edema

46. The effects of digital cardiotonic glycosides are characterized by?
    a. Positive inotropic effect
    b. Positive batmotropic effect
    c. Negative dromotropic effect
    d. Negative chronotropic effect

47. In general, digoxin would be indicated for a dog with:
    a. Dilated cardiomyopathy and atrial fibrillation
    b. Heartworm disease
    c. Pericardial effusion
    d. Hypertrophic cardiomyopathy

48. The mechanism of action of digoxin's positive inotropic effect is:
    a. direct stimulation of the Na+–Ca2+ exchanger
    b. competitive inhibition of Na+, K+-ATPase
    c. activation of Gs protein
    d. peripheral and central sympathetic stimulation

49. A dog is presented in severe heart failure from dilated cardiomyopathy; you decide to institute therapy with a catecholamine. Regarding dopamine and dobutamine, all the following are true, EXCEPT:
    a. Both agents have a t 1/2 between 10 and 20 minutes
    b. Both agents have extensive hepatic metabolism
    c. Long-term use is limited by β-receptor down-regulation.
    d. Dopamine is more arrhythmogenic than dobutamine.

50. Drugs which act by blocking β-adrenergic receptors comprise which class of antiarrhythmic agents?
    a. Class I
    b. Class II
    c. Class III
    d. Class IV

51. Which antiarrhythmic drug is INCORRECTLY matched with its classification?
    a. Lidocaine—Class IA
    b. Procainamide—Class IA
    c. Tocainide—Class IB
    d. Quinidine—Class IA

52. When used IV, lidocaine has all of the following effects, EXCEPT:
    a. It usually suppresses premature ventricular contractions
    b. It consistently abolishes atrial arrhythmias
    c. It decreases Na+ conductance in automatic cells
    d. It has little to no effect on sinus node pacemaker function

53. Heparin is used in cats after acute thromboembolism because of its inhibitory effects on coagulation. In combination with antithrombin III, it neutralizes all the following factors, EXCEPT:

a. XII
b. X, XI
c. VIII
d. IX

54. The diuretic preferred for reducing the intra cranial pressure is:

a. furosemide
b. ethacrynic acid
c. acetazolamide
d. mannitol

55. Which of the following statements are true recommendations for rehydration therapy?

a. It is recommended in hypovolemia by dehydration
b. Not indicated in acute and chronic diarrhea
c. It is recommended for exhausted animals
d. None of the options is true

56. The effect of dobutamine on heart is:

a. increased force of contraction
b. increased heart rate
c. increased conduction of impulses
d. decreased conduction of impulses

57. Which of the following statements about dextran are correct?

a. They produce an increase in the circulating volume
b. The duration of the effect is 6 hours
c. It is pharmacologically inactive
d. It is very toxic

58. Which of the following colloid solutions has the shortest duration of action?

a. 6% Hetastarch
b. 6% Dextran 70
c. 10% Dextran 40
d. 5% Oxypolygelation

59. Flucytosine absorption is achieved rapidly and completely when?

a. It is administered intravenously;
b. It is administered orally;
c. In the absence of the food.
d. None of the options is correct

60. The diuretic which acts by antagonizing aldosterone is:
    a. furosemide
    b. lamiloride
    c. spironolactone
    d. chlorothiazide

61. Co-administration of fluconazole and erythromycin may increase the risk of:
    a. Nephrotoxicity
    b. Hepatotoxicity
    c. Cardiotoxicity
    d. Encephalopathy

62. Therapeutic activity of griseofulvin is more effective when administered:
    a. Orally and in ultramicronized form
    b. Intravenous and in ultramicronized form
    c. Subcutaneous and in micronized form
    d. Intramuscularly and in ultramicronized form

63. Which are the therapeutic indications for griseofulvin:
    a. Dermatophytosis of the skin, hair and nails
    b. Nematodes of small animals
    c. Candidiasis infections
    d. Viral infections

64. Co-administration of amphotericin B with colistin potentiates:
    a. Therapeutic effect
    b. Cardiac toxic effect
    c. Renal toxic effect
    d. Ototoxicity

65. All of the following statements concerning ketoconazole are true, EXCEPT:
    a. It is more effective than flucytosine for meningeal cryptococcosis since it penetrates the CNS more completely
    b. It inhibits ergosterol synthesis in both systemic mycotic infections and candidiasis (yeast infections)
    c. Cortisol and testosterone synthesis in mammals is inhibited at high doses
    d. It must be administered for 3–6 months in therapy for systemic mycoses

66. Ketoconazole is characterized by:
    a. Very high toxicity
    b. Relatively low toxicity
    c. Nephrotoxicity
    d. Cardiotoxicity

67. What is the most widely used antifungal in the treatment of Aspergillus fumigatus infections:

a. Terbinafine
b. Clotrimazole
c. Itraconazole
d. Flucitozine

68. Nystatin is used to treat mycoses caused by fungi such as:

a. Candida, Aspergillus, Sporotrichum
b. Tricophyton
c. Microsporum
d. It has no antifungal action

69. Which of the following enilconazolol indications in veterinary medicine are correct:

a. It is a topical antifungal used in the treatment of dermatophytosis in animals
b. It is a systemic antifungal
c. It is active against the genera Aspergillus and Penicillium
d. None of the options is correct

70. What does the term "antibiotic" mean?

a. Synthetic analogues of natural substances that destroy protozoa and helminths
b. Substances produced by some micro-organisms and their synthetic analogues which selectively destroy or inhibit the growth of another micro-organism
c. Inorganic or synthetic substances which selectively destroy or inhibit the growth of other micro-organisms
d. Substances produced by some microorganisms and their synthetic analogues that inhibit the growth of cells in the body

71. The antimicrobial action of one of the following antibiotics is described as ‘time dependent’:

a. streptomycin
b. enrofloxacin
c. amoxycillin
d. gentamicin

72. Third generation cephalosporin among these is:

a. ceftiofur
b. cefazolin
c. cefadroxil
d. cefquinome

73. Which of the following uses of antibiotics in farm animals is no longer approved:

a. Prevention
b. Treatment
c. Control
d. Growth promoter

74. Which are the mechanisms of antimicrobial resistance:

a. Inactivation or destruction of the antibiotic
b. Inhibition of antibiotic entry into the cell
c. Target modification (antibiotic binding site) so that the antibiotic molecule can no longer react with cellular components
d. Elimination of antibiotic (active efflux)

75. Infectious or transferable drug resistance, which involves transfer of multiple-drug resistant genes via pili, has been observed clinically in Gram(–) infections of the:

a. Urinary tract
b. Intestinal tract
c. Respiratory tract
d. Skin

76. A therapeutic protocol with anti-infectious substances should aim at:

a. Maintaining a serum concentration above the MIC (minimum inhibitory concentration)
b. Do not administer the therapeutic dose more than 4 times
c. The curative dose should be higher than the preventive one
d. None of the options is correct

77. Which class of drugs can cause erosion of articular cartilage in young growing dogs?

a. Aminoglycosides
b. Penicillins
c. Cephalosporins
d. Fluoroquinolones

78. The bacteriostatic effect means:

a. Inhibition of bacterial growth
b. Destruction of bacterial cells
c. Acceleration of bacterial cell division
d. Accelerating the division of young bacterial cells

79. Which antibiotics should be given in a large single daily dose rather than multiple doses to avoid nephrotoxicity?

a. Gentamicin
b. Erythromycin
c. Trimethoprim sulphate
d. Metronidazole

80. Which class/classes of antibiotics are inhibited by drugs which contain a para-amino benzoic acid (PABA. core?

a. Macrolides and lincosamides
b. Cephalosporins
c. Sulphonamides
d. Tetracyclines

81. Which class of antibiotics can stain developing teeth and bone?

a. Fluoroquinolones
b. Macrolides and lincosamides
c. Tetracyclines
d. Penicillins

82. Which of the following antibiotic combinations is correct:

a. Crystalline penicillin and chloramphenicol
b. Crystalline penicillin and streptomycin
c. Ciprofloxacin and streptomycin
d. Sulfamides and penicillin

83. Which of the following statements about antibiotic associations are correct:

a. The main reason for the association of antibiotics in veterinary medicine is to obtain a broad or ultra-wide antibacterial spectrum.
b. The combination of two bacteriostatic antibiotics does not usually lead to a synergistic effect
c. The associations lead to the limitation of the toxicity of some antibiotics, by reducing the doses of each one
d. Bactericidal antibiotics active in the multiplication phase may be associated with bacteriostatic antibiotics

84. To which generation of cephalosporins does cefalexin belong?

a. Second generation
b. Fourth generation
c. First generation
d. Third generation

85. Considering the pharmacology of the penicillin G and the first-generation cephalosporins, all of the following are true, EXCEPT:

a. They inhibit peptidoglycan cross-linking in the third stage of bacterial cell wall synthesis.

b. Bacterial resistance is most commonly due to β-lactamase production.

c. Tissue penetration of cephalosporins is superior to penicillin G and thus they are preferred for antibiotic prophylaxis in surgery.

d. They are eliminated primarily by hepatic metabolism and biliary excretion of conjugated drug.

86. Which beta-lactamase inhibitors are used with amoxicillin and ampicillin:

a. Clavulanic acid

b. Tazobactam

c. Sulbactam

d. All are correct

87. Cephalosporins are recommended for the treatment of:

a. Infections with gram-negative microorganisms

b. Viral infections

c. Infections with gram-positive microorganisms

d. Infections with gram-negative and gram-positive microorganisms, if penicillins have no effect

88. Trimethoprim or ormetoprim combined with a sulfonamide results in all of the following, EXCEPT:

a. a sequential blockade of folate synthesis in susceptible bacteria.

b. a decreased ability of sulfonamides to produces dry keratoconjunctivitis (KCS)

c. a decrease in the rate of development of resistant bacteria.

d. an extended antibacterial spectrum.

89. Two semisynthetic penicillins that are effective against Pseudomonas spp. are:

a. Methicillin and ampicillin

b. Ampicillin and amoxicillin

c. Amoxicillin and ticarcillin

d. Ticarcillin and piperacillin

90. Which of the following is not a type of β-lactam antimicrobial?

a. penicillins

b. glycopeptides

c. cephalosporins

d. monobactams

91. Adverse reactions to the aminoglycoside antibiotics include all of the following, EXCEPT:
    a. Neuromuscular blockade
    b. Myelosuppression and anemia
    c. Nephrotoxicity
    d. Ototoxicity

92. What was the first antibiotic discovered?
    a. Tetracycline
    b. Erytromycin
    c. Streptomycin
    d. Penicillin

93. If an antibiotic prevents bacteria from growing, then its action is termed
    a. bactericidal
    b. selectively toxic
    c. bacteriostatic
    d. toxic

94. Considering the pharmacology of the and clindamycin, all of the following are false, EXCEPT:
    a. Is primarily active against Gram (–) pathogens
    b. Is used in equine enteric infections since it is a poorly absorbed “enteric” macrolide
    c. Distribution is generally limited to the ECF
    d. Is frequently effective in staphylococcal osteomyelitis

95. Which of the following antibiotics have a bacteriostatic effect:
    a. Carbapeneme
    b. Cephalosporins
    c. Lincosamide
    d. Aminoglycosides

96. Which of the following therapies is not correct?
    a. Lincomycin—swine dysentery
    b. Florfenicol—bovine respiratory disease
    c. Tetracycline—psittacosis in birds
    d. Chloramphenicol—mycoplasmal pneumonia in swine

97. Three antibiotic used topically or orally but not parenterally (primarily because of nephrotoxicity) are:
    a. streptomycin, kanamycin, bacitracin
    b. polymixin B, bacitracin, neomycin
    c. bacitracin, tiamulin, polymixin B
    d. neomycin, gentamicin, rifampin

98. What is the antibiotic that inhibits bacterial RNA synthesis:
    a. Imipenem
    b. Rifampicin
    c. Chloramphenicol
    d. Erythromycin

99. The mode of action of antifungal drugs that target sterols is to
    a. inhibit the synthesis of essential metabolites
    b. injure the plasma membrane
    c. inhibit nucleic acid sythesis
    d. inhibit cell wall sythesis

100. Which substance belongs to the group Cephalosporins:
    a. Phenoxymethylpenicillin
    b. Erythromycin
    c. Streptomycin
    d. Cefaclor

VI. PATHOLOGICAL ANATOMY

1. Microscopic, pericardial gout reveals:
    a. acicular crystals arranged in rosettes
    b. amorphous masses uropurinice
    c. cholesterol rectangular crystals
    d. fat doplets

2. Serous atrophy of the pericardium:
    a. occurs in A vitamine deficiency
    b. is a yellow gelatinous mass-glassy instead of the fat tissue
    c. occurs in older animals, in the chronic wasting disease
    d. occurs after a benign tumor

3. Pericardial bleeding is manifested by:
    a. Bruising
    b. Suffusions
    c. Epistaxis
    d. Hematoma

4. Purulent pericarditis is known as:
    a. Piopericard
    b. Pericardial empyema
    c. Chylopericard
    d. Villous heart

5. Necrotic spleen is frequently found in birds in:
    a. pasteurellosis
    b. tuberculosis
    c. histomoniasis
    d. E vitamine deficiency

6. Granulomatous inflammation of the spleen is particularly common in:
    a. parvovirosis
    b. coligranulomatosis
    c. tuberculosis
    d. necrobacillosis

7. The splenomegaly is observed in:
    a. infectious anemia of horse
    b. babesiosis
    c. hemorrhagies
    d. calcification

8. Secondary spleen tumors are frequent in:
    a. pasteurellosis
    b. colibacillosis
    c. Marek's disease
    d. avian leukosis

9. Amyloid nephrosis or renal amyloidosis, occurs mainly in:
    a. cattle and poultry in chronic inflammation
    b. in malignant tumors
    c. visceral gout
    d. topographic changes of the spleen

10. Primary tumors of the spleen are:
    a. Lymphomas
    b. Fibromas
    c. Mast cell tumors
    d. Lipoma

11. The rapid evolution of pulmonary edema can cause death by:
    a. Suffocation
    b. Heart insufficiency
    c. Pneumothorax
    d. Neurological complications

12. According to morphological criteria, bronchopneumonia can be:
    a. Bacterial and viral
    b. Necrotic and gangrenous
    c. Lobular and interstitial
    d. Fibrotic and granulomatous

13. Active renal congestion occurs in:
    a. Hyperparathyroidism
    b. Septicaemic diseases in all species
    c. Constant lesion in rujet
    d. Canine parvovirosis

15. Pericardial bleeding can occur in diseases like:
    a. Bacterial septicemia
    b. Serofribrinous pleuritis
    c. Pulmonary edema
    d. Warfarin poisoning or with derivatives

16. Cardiac dilation can determine:
    a. Chronic congestive lesions in various organs (liver, lung)
    b. Chronic ischemic lesions in various organs (liver, lung)
    c. Peripheral edema
    d. Cerebral edema

17. The main causes of purulent thrombophlebitis in animals are :
    a. Pyodermitis
    b. Injection of irritative drug solutions or wrongly executed (perivenous)
    c. Bad hygiene of the umbilical cord at the birth
    d. Vitamin K deficiency

18. What are some potential causes of atelectasis by obstruction in the lungs?
    a. Pleural effusion
    b. Transdiaphragmatic hernia
    c. Large amount of mucopurulent discharge in the bronchi
    d. Endobronchial tumors

19. Atelectasis of compression can be a result of:
    a. Endobronchial parasites
    b. Pleural effusion
    c. Gas accumulation in the pleural cavity
    d. Endobronchial foreign bodies

20. Congenital atelectasia, found in dead fetuses, can be produced by:
    a. A lack of the pulmonary surfactant secretion during intrauterine development
    b. Traumatic transdiaphragmatic hernia
    c. Penetrating wound of the thorax by a foreign sharp body
    d. Fetal fluids inhalation

21. The persistence of the oval hole of the heart after birth causes:
    a. cardiac hyperplasia
    b. the mixing of arterial and venous blood
    c. stenosis of the pulmonary artery
    d. tumors of the heart

22. The presence of the heart on the right side of the mediastinum is named:
    a. Diplocardia
    b. Cardiac ectopia
    c. Dextrocardia
    d. Multiplicitas cordis

23. Persistence of the oval hole (foramen ovale persistence) after birth is located in:
    a. Interatrial septum
    b. Interventricular septum
    c. Right atrioventricular valve
    d. Left atrioventricular valve

24. Pericardial gout is the expression status of:
    a. General uric diathesis
    b. Cardiac dilatation
    c. Lipid deposits in the myocardial cells
    d. Cardiac hypertrophy

25. Uric granulomatous pericarditis is observed in birds in:
    a. Aspergillosis
    b. Acute gout
    c. Chronic gout
    d. Tuberculosis

26. What is the composition of the crystals seen in pericardial gout:
    a. Calcium carbonate
    b. Calcium oxalates
    c. Uric acid
    d. Cholesterol crystals

27. Serous pericarditis is an inflammation observed in:
    a. the evolution of acute septicaemic disease
    b. metastatic purulent pericarditis
    c. evolving chronic productive inflammation
    d. villous heart

28. The appearance and accumulation of fibrinous exudate in the pericardial cavity is termed:
    a. Fibrous pericarditis
    b. Fibrinoid pericardosis
    c. Fibrinous pericarditis
    d. Serous pericarditis

29. In most cases, the consequence of traumatic pericarditis is:
    a. Granulomatous pericarditis
    b. Gangrenous pericarditis
    c. Fibrinous pericarditis
    d. Necrotic pericarditis

30. The basic lesion in round heart disease in chickens is:
    a. Myocardial steatosis
    b. Hyaline myocardosis
    c. Myocardial atrophy
    d. Cardiac hypertrophy

31. What is the primary cause of haemopericardium?
    a. Rupture of the pericardial sac
    b. Breakage of the great vessels of the heart
    c. Inflammation of the pericardium
    d. Blockage of coronary arteries

32. Chylopericardium represents:
    a. the accumulation of blood inside the pericardial cavity
    b. the presence of suffusions on the pericardial walls
    c. the accumulation of puss inside the pericardial cavity
    d. the accumulation of lymph inside the pericardial cavity

33. Haemopericardium means:
    a. the accumulation of air inside the pericardial cavity
    b. the accumulation of exudate inside the pericardial cavity
    c. the accumulation of blood inside the pericardial cavity
    d. the welding of the the two pericardial walls

34. Pericardial effusion is:
    a. the accumulation of transudate into the pericardial cavity
    b. the accumulation of blood into the pericardial cavity
    c. the accumulation of air into the pericardial cavity
    d. the accumulation of puss into the pericardial cavity

35. All "pericardial collections" may cause sudden death by:
    a. Acute kidney injury
    b. Cardiac tamponade
    c. Cerebral edema
    d. Myocardial infarctus

36. Necrotic pericarditis is common in:

a. Antrax in cattle
b. Marek disease in poultry
c. Lambs visceral necrobacillosis
d. Gout in pigs

37. The presence inside the pericardial cavity of increased amounts of citrine liquid that coagulates when comes into contact with air is termed:

a. serous pericarditis
b. hydropericardium
c. pericardial empyema
d. purulent pericarditis

38. Fibrous pericarditis occurs in:

a. Marek disease in poultry
b. pyobacillosis in pigs
c. gout in pigs
d. salmonellosis in pigs and poultry

39. Myocardial steatosis may be seen in:

a. mycoplasmosis
b. young animals
c. fattening animals
d. lack of iron

40. Arteriosclerosis is characterized by:

a. atrophy of the myoelastic fibers and substitution fibrosis with an increase in arterial wall structure and rigidity
b. deposit of substances in the intima and media of the large and medium arteries with aterom plaque formation
c. whitish plates or granules are found, hard to palpation, protruding to intimate that endothelial prints look rough
d. total obstruction of the arteries

41. Granulomatous myocarditis may be seen in:

a. echinococcosis, cysticercosis
b. pyobacillosis, mycoplasmosis
c. pasteurellosis, pseudomonosis
d. acute colibacillosis, infections with *Erysipelothrix rhusiopathie*

42. Fibroelastosis manifests through:
    a. brown areas located on the epicardium
    b. bright red areas located on the endocardium
    c. thickening of the endocardium
    d. fibrotic areas inside the myocardium

43. Based on its topography endocarditis may be:
    a. acute, chronic
    b. valvular, parietal, trabecular, papillary
    c. septic, aseptic
    d. primary, secondary

44. Fibrinous bronchopneumonia:
    a. has four stages: acute congestion (filling), red hepatization, grey hepatization, resolution
    b. is characterized by the presence of multiple abscesses
    c. manifests through the presence of catarrhus
    d. has as main characteristic the increasing number of collagen fibers

45. Chronic infections with streptococci and rujet bacillus may cause:
    a. granulomas
    b. valvular ulcero-vegetative endocarditis
    c. serous pericarditis
    d. cardiac tumors

46. Cardiac hypertrophy is manifested through:
    a. the thickening of the muscle fibers
    b. the thinning of the myocardium and the enlargement of the cardiac cavities
    c. an increase in the number of cardiac muscle cells
    d. the presence of petechiae on the surface of the heart

47. Gangrenous bronchopneumonia:
    a. is characterized by the presence of giant cells
    b. may be caused by the ingres of foreign matter in the lungs
    c. is characterized by an abundand leukocytic exudate
    d. is not a serious condition

48. Pulmonary anthracosis is:
    a. a type of lung inflammation
    a. a lung disorder caused by bacterial infection
    a. a condition characterized by black dust pigmentation in the lungs
    a. a genetic disorder affecting lung function

49. Viral, chlamydial and mycoplasmal infections produce:
    a. lymphohistiocytic bronchopneumonia
    b. purulent bronchopneumonia
    c. granulomatous bronchopneumonia
    d. gangrenous bronchopneumonia

50. Phlebitis is a term that defines:
    a. the inflammation of the endocardium
    b. a dystrophic process of the arteries
    c. an inflammation of the veins
    d. the vehiculation of emboli through the blood stream

51. After anatomical microstructures, emphysema can be:
    a. acute and chronic
    b. essential and clearing or vicars
    c. alveolar and interstitial
    d. primary and secondary

52. What happens to the remaining air in the lungs during atelectasis by obstruction?
    a. It is rapidly expelled through coughing
    b. It is absorbed slowly over a period of 2-3 hours
    c. It is trapped in collapsed alveoli
    d. It is released through bronchial dilation.

53. In pulmonary active congestion, alveolar capillaries are:
    a. Dilated and filled with red blood cells
    b. Dilated and filled with white blood cells
    c. Constricted and empty
    d. Collapsed and devoid of blood

54. Siderosis are caused by inhalation of:
    a. Dust
    b. Silica dust
    c. Iron oxide
    d. Carbon particles

55. Silicosis are caused by inhalation of:
    a. Dust
    b. Silica dust
    c. Iron oxide
    d. Carbon particles

56. What happens to the blood in hemoptysis as it comes from the pulmonary alveoli:
    a. It is mixed with mucus
    b. It forms clots
    c. It is mixed with numerous bubbles of gas
    d. It remains pure without any mixing

57. The presence of fluid (transudate) in pulmonary alveoli and bronchi indicates:
    a. Pulmonary embolism
    b. Pulmonary fibrosis
    c. Pulmonary congestion
    d. Pulmonary edema

58. The red hepatization phase of croupal bronchopneumonia consists in:
    a. septal capillary congestion and intraalveolar serous exudate
    b. capillary congestion, intraalveolar fibrinous exudate and desquamated alveolar cells
    c. neutrophil granulocytes that will produce enzymatic lysis of fibrin, there is no congestion and alveolar epithelium
    d. lung parenchyma returns to its original shape by "restutio ad integrum"

59. “Ab ingestis” bronchopneumonia is a term used for:
    a. Gangrenous bronchopneumonia
    b. Granulomatous bronchopneumonia
    c. Fibrinous bronchopneumonia
    d. Purulent bronchopneumonia

60. Parasitic arteritis may be caused by:
    a. *Strongylus vulgaris* in horses
    b. *Pasteurella spp.* in pigs
    c. *Staphylococcus spp.* in carnivores
    d. all of the above

61. Small translucent lumps, size of a grain of rice, visible on the sectioned surface of the spleen may be seen in which lesion:
    a. congestion
    b. jaundice
    c. amyloid lienosis
    d. hypostasis

62. Hemosporidiosis with the destruction of red blood cells will cause in the spleen:
    a. fibrinoid lienosis
    b. amyloid lienosis
    c. infarctus
    d. hemosiderosis

63. Lienosis is a term used for:
    a. Spleen dystrophies
    b. Liver dystrophies
    c. Spleen inflamations
    d. Liver inflamations

64. Lienitis is a term used for:
    a. Spleen dystrophies
    b. Liver dystrophies
    c. Spleen inflamations
    d. Liver inflamations

65. Red splenic infarctus:
    a. is frequently seen in swine and has a triangular shape
    b. is frequently seen in birds
    c. is caused by hyperemia
    d. originates in the lymphatic vessels

66. In birds with pasteurellosis or rumminants with necrobacillosis we may find:
    a. purulent lienitis
    b. necrotic spleen
    c. granulomatous splenitis
    d. gangrenous splenitis

67. Coagulation necrosis and diffuse bleeding of the spleen may be seen together in:
    a. purulent lienitis in pyobacillosis
    b. gangrenous lienitis in tuberculosis
    c. hemorrhagico-necrotic lienitis in acute salmonellosis
    d. fibrinoid lienosis

68. Spleen necrosis is one of the characteristic lesions of:
    a. Aujeszki's disease in piglets
    b. Canine leptospirosis
    c. Avian pasteurellosis
    d. Strongylus vulgaris in horses

69. Purulent splenitis:
    a. occurs in tuberculosis
    b. may evolve as multiple abscesses or phlegmon
    c. is characterized by an increase in the number of collagen fibers in the spleen
    d. evolves with multiple coagulation necrosis areas

70. Brucellosis and tubercullosis will cause in the spleen:
    a. purulent lienitis
    b. gangrenous lienitis
    c. granulomatous lienitis
    d. parenchymal lienitis

71. “Hyaline cylinders” are seen in:
    a. Intracellular hyalinosis
    b. Interstitial hyalinosis
    c. Granular nephrosis
    d. Renal steatosis

72. Renal hemosiderosis may be caused by:
    a. arterial infarctus
    b. chronic or massive hemolysis
    c. compression atrophy
    d. hypoplasia

73. Grey-yellow areas on the surface of the kidney, surrounded by a reddish ring, with a triangular shape on the sectioned surface is an aspect that characterizes:
    a. an abscess
    b. a granuloma
    c. a cyst
    d. a white arterial infarctus

74. Cystic glomerulonephritis is the result of:
    a. renal congestion
    b. chronic serous glomerulonephritis
    c. parenchymal nephritis
    d. renal infarctus

75. Hemorrhagic glomerulonephritis occurs in:
    a. pyobacillosis
    b. tuberculosis
    c. brucellosis
    d. acute salmonellosis

76. Slightly enlarged kidneys, yellow (partially or totally), on section presents lipid gloss is an aspect that characterizes:
    a. Amyloid nephrosis
    b. Granular nephrosis
    c. Hyaline nephrosis
    d. Renal steatosis

77. The term used for urinary calculi (stones) is:
    a. Nephritis
    b. Urolithiasis
    c. Renal cysts
    d.Urethritis

78. Bacterial emboli may cause in the kidneys:
    a. necrotic nephritis
    b. focalized purulent nephritis
    c. hydronephrosis
    d. renal steatosis

79. Whitish-grey areas on the surface of the kidneys, slightly protruding, of about 5 mm in diameter or larger characterize:
    a. gangrenous nephritis
    b. renal steatosis
    c. lymphohistiocytic nephritis
    d. diffuse purulent nephritis

80. " Little kidneys rippled " is a term used for:
    a. Fibrous interstitial nephritis
    b. Lymphohistocytic interstitial nephritis
    c. Suppurative interstitial nephritis
    d. Granulomatous nephritis

81. Renal infarction is typically:
    a. red
    b. venous
    c. hemorrhagic
    d. white or anemic

82. Purulent glomerulonephritis means:
    a. accumulation of purulent exudate in the glomerular space
    b. purulent exudate in the pelvis
    c. accumulation of purulent exudate in the interstitial space
    d. purulent exudate in the urinary tubes

83. Perisplenitis are inflammation of the:
    a. splenic capsule
    b. splenic pulp
    c. blood vessels of the spleen
    d. lymphoid follicles

84. Macroscopic the kidneys in fatty dystrophy are:
    a. slightly enlarged, yellow
    b. smaller in size, brown
    c. no macroscopical changes
    d. normal in size and white

85. The presence of the heart in the cervical region, pectoral or abdominal is named:
    a. Acardia
    b. Cardiac ectopia
    c. Dextrocardia
    d. Multiplicitas cordis

86. The persistence of the oval foramen after birth can cause an eventual death by:
    a. hypoxia
    b. myocardial infarct
    c. pulmonary haemorrhage
    d. cardiac tamponade

87. Pericardial melanosis in macroscopically characterized by:
    a. Fibrinous deposits in the pericardial cavity
    b. Fat infiltration of the epicardium
    c. The presence of brown-blackish outbreaks of varying sizes
    d. Hemosiderin deposits

88. Gross aspects of pericardial gout are characterized by:
    a. White deposits like chalk
    b. Hyaline membranes
    c. Calcium salts precipitates
    d. Abcess formation

89. Chylopericardium is the result of:
    a. The rupture of the great vessels of the heart
    b. The rupture of the thoracic duct
    c. The accumulation of the transudate
    d. The accumulation of pus

90. The first phase of traumatic pericarditis in cattle is characterized by:
    a. Necrotic pericarditis
    b. Serous pericarditis
    c. Granulomatous pericarditis
    d. Sero-fibrinous pericarditis

91. Hypertrophy of the ventricular myocardium can be induced by:
    a. Stenosis of the aortic valve (hole)
    b. Myocardial infarction
    c. Stenosis of the atrioventricular valves
    d. Granular myocardosis

92. Subendocardial suffusions are mostly seen in:
    a. Sepsis or hypoxic injury
    b. Myocardial hyperemia
    c. Myocardial infarction
    d. Cardiac tamponade

93. Ulcerovegentat endocarditis is followed by:
    a. Myocardial necrosis
    b. Pyopericardium
    c. White renal infarction
    d. Myocardial fibrosis

94. In the etiopathogenesis of atherosclerosis can be mentioned:
    a. Viral arteritis
    b. Malignant hypercalcemia
    c. Hypercholesterolemia
    d. Hypervitaminosis B12

95. The main cause of localized arterial thrombosis is:
    a. External compression on blood vessels
    b. Intimal endothelial damage
    c. Hypercholesterolemia
    d. Hypertrophy of the arterial wall

96. Diffuse endothelial damage at the capillary level is responsible for the initiation of:
    a. Disseminated intravascular coagulation
    b. Increased vascular wall fragility
    c. Hypertrophy of the blood vessel wall
    d. Fibrinoid deposition in the blood vessel wall

97. Which of the following types of aneurysm are considered true aneurysms:
    a. Sacciform and fusiform aneurysm
    b. Fusiform and dissecting aneurysm
    c. Sacciform and dissecting aneurysm
    d. Dissecting aneurysm

98. Marginal splenic infarcts are seen in:

a. Splenic hyalinosis
b. Splenic torsion
c. Splenic fibrinoidosis
d. Splenic amyloidosis

99. Splenic hemosiderosis is associated with pathologies which implies:

a. Splenic compression
b. Destruction of red blood cells
c. Splenic thrombosis
d. Spleen athrophy

100. Splenomegaly, low consistency and large volume of dark venous blood on section is compatible with:

a. Red splenic infarcts
b. White splenic infarcts
c. Splenic passive congestion
d. Gangrenous lienitis

VII. SEMIOLOGY

1. Muscle tone is examined by:
    a. Inspection and palpation
    b. Electrocardiography
    c. Electromiography
    d. Auscultation

2. As special methods of examination of the heart, it can be applied:
    a. Ultrasound examination
    b. Endoscopic examination
    c. Phonocardiography
    d. Mycological examination

3. First heart sound:
    a. Is systolic
    b. Is diastolic
    c. Represents closure of the sigmoid valves
    d. Represents closure of the atrioventricular valves

4. Electrocardiography evaluates:
    a. Intracardiac hemodynamics
    b. Electrical potential of the heart
    c. Arrhythmias
    d. Cardiac silhouette

5. Depending on the amplitude, the pulse can be characterized as:
    a. Hard or soft pulse
    b. Pulsus parvus and magnus
    c. Tachycardic or bradycardic pulse
    d. Differential or uneven pulse

6. Examination of the oesophagus in carnivores looks for:
    a. Oro-gastric digestive tract
    b. Time III dysphagia
    c. Time dysphagia II
    d. Food prehension

7. Indirect heart percussion is applied to assess:
    a. A normal dull sound
    b. The percussion area between spaces 3-6 (4-7 in dog)
    c. Cardiac pain
    d. Checking reflexes

8. Palpation of cardiac shock requires examination:
    a. Rhythm, rate
    b. Intensity, site
    c. Pain sensitivity
    d. Wave sensations in case of fluid accumulation

9. Stomach probing in the horse is performed:
    a. By the buccal and nasopharyngeal technique
    b. By opening the mouth and pulling out the tongue
    c. For diagnostic and therapeutic purposes
    d. For therapeutic and surgical purposes only

10. Liver inspection at carnivores is carried out in the region:
    a. Epigastric, the infero-posterior border of the right hypochondrium
    b. Epigastric, infero-posterior margin of the left hypochondrium
    c. Ventral abdomen
    d. Epigastric, dorsal border of left and right hypochondrium

11. The dyspneic facies in horses is represented by:
    a. Startled look and agitation
    b. Open mouth and trumpet nostrils
    c. Semi-closed eyes
    d. Contraction of facial muscles

12. Tahicardia appears in
    a. Vagotonics
    b. Fever syndrome
    c. Anemia
    d. Hypothermic shock

13. The intensity of cardiac shock decreases in:
    a. Fever syndrome
    b. Pericardial effusion
    c. Cardiac hypertrophy
    d. Inhibitory and vagotonic states

14. In case of intestinal meteorism, the percussion sound is:
    a. Tympanic
    b. Atympanic
    c. Hypersonor
    d. Subdull

15. Gastric probing in carnivores cannot be performed in:
    a. Volvulus
    b. Gastritis
    c. Esophageal obstruction
    d. Gastric neoplasia

16. At the level of the right hemithorax is the point of maximum intensity for the orifice:
    a. Mitral
    b. Aortic
    c. Pulmonary
    d. Tricuspid

17. Indirect liver percussion gives a normal sound:
    a. Timpanic to horse
    b. Subdull in horse
    c. Dull in cow
    d. Dull in horse

18. The special methods recommended for liver analysis are:
    a. Endoscopy
    b. Ultrasound
    c. Blood biochemical analysis
    d. Puncture of the abdomen in the flank fossa

19. Phonocardiography represents:
    a. Recording the electrical potential of the heart
    b. Graphical and acoustic recording of heart sounds
    c. Recording of blood dynamics disturbances in the heart
    d. Recording of cardiac movements

20. Hyperesthesia/hyperalgia irradiant represents:
    a. Exaggeration of tenderness over an area served by collateral branches of the same sensory nerve
    b. Exaggeration of sensitivity at the site of excitation
    c. Exaggeration of sensitivity reflected at a great distance via a neuroma
    d. Exaggeration of generalised sensitivity

21. Colaluria represents:
    a. Presence of bile salts in the urine.
    b. Presence of bile pigments in urine
    c. Presence of bile salts in the blood
    d. Presence of bile pigments in the blood

22. Specific symptoms in gastric pain in horses are:
    a. Colic
    b. Vomiting
    c. Diarrhoea
    d. Epiphidrosis on the left humeromastoid area

23. The usual special methods of the stomach in the dog are:
    a. Radiography, ultrasonography
    b. Exudate sampling and analysis
    c. Puncture and examination of puncture fluid
    d. Examination of gastric contents

24. Xerodermia represents:
    a. Increased secretion of sweat glands
    b. Dryness of the skin
    c. Increased secretion of sebaceous glands
    d. No secretion of sebaceous glands

25. Opistotonus represents
    a. Keeping the head in extension
    b. Keeping the head bowed
    c. Keeping the head in a horizontal line with the neck
    d. Turning the head on the neck

26. Exteroceptive sensitivity includes:
    a. Superficial and sensory sensitivity
    b. Superficial and proprioceptive sensitivity
    c. Tactile and pain sensitivity
    d. Visceral sensitivity

27. Pleurostotonus:
    a. It is also called self-listening
    b. Phenomenon also referred to as hooding
    c. Represents the twisting of the head on the neck
    d. Represents sideways deflection and holding the head towards the thorax

28. Cystine crystals in the urinary sediment:
    a. Spherical or granular in shape
    b. Shaped like thin prismatic needles
    c. Shaped as rhomboidal crystals
    d. Have a hexagonal shape

29. Emprostotonus represents:
    a. Neck wringing
    b. Keeping the head down
    c. Keeping the head extended
    d. Holding the head towards the chest

30. The normal conformation is:
    a. Harmonious or defective
    b. Thin or robust
    c. Weak or coarse
    d. Good or bad

31. Lymphatic temperament is specific:
    a. In Sheep
    b. In carnivores
    c. In bovines
    d. In Swine

32. Cortical inhibition states include:
    a. Apathy, syncope
    b. Apathy, phobia
    c. Coma, lipotimia
    d. Retivity, hysteria

33. Cortical arousal states include:
    a. Apathy, syncope
    b. Hallucination, phobia
    c. Coma, lipotimia
    d. Retivity, hysteria

34. Diskinesias are:
    a. Normokinetics
    b. Hyperkinesias
    c. Hypokinesias
    d. Normal contractions in response to excitations

35. Time III dysphagia occurs:
    a. When the pharynx is severely inflamed
    b. When the oesophagus is intensely compressed by an external process
    c. When the oesophagus, pharynx and one of the nasal cavities is intensely inflamed
    d. When a foreign body obstructs the oesophagus

36. Special methods applied to the heart are:
    a. echocardiography, transonance check, electromyography
    b. echocardiography, electromyography, pericardial puncture
    c. pericardial puncture, electrocardiography, echocardiography
    d. echocardiography, phonocardiography, pericardial puncture

37. The fine constitution is characterized by:
    a. Respiratory physiological type;
    b. Increased body weight;
    c. Thin bone;
    d. Dense skin.

38. Approachable lymph nodes in horses are:
    a. Submandibular lymph nodes;
    b. Intercostal lymph nodes
    c. Peritoneal lymph nodes;
    d. Prechrural lymph nodes.

39. Haemorrhagic spots are manifested by:
    a. Glassy pressure failure;
    b. Red-tinted areas;
    c. Red areas - open;
    d. Does not yield to glass pressure.

40. Differential pulse occurs in:
    a. Hypertension;
    b. Aneurysms;
    c. Thrombosis;
    d. Aortic insufficiency.

41. The projection area of the heart, in the dog, is located:
    a. Between intercostal spaces 4-7;
    b. On the left hemithorax;
    c. Between intercostal spaces 3-6;
    d. On the right hemithorax.

42. Pulse is examined:
    a. Amplitude, tension, frequency, consistency
    b. Speed, frequency, rhythm, amplitude
    c. Rhythm, crackle, frequency, voltage
    d. Tension, frequency, rhythm, amplitude

43. The special methods most commonly used for cardiovascular examination are:
    a. Electrocardiography
    b. Echocardiography
    c. Computer tomography
    d. Haemoleucogram

44. Special examinations for oesophagus are the following:
    a. Puncture and scraping
    b. Probing and endoscopy
    c. Radiological examination
    d. Inspection and deep palpation

45. Special liver examinations are:
    a. Endoscopy
    b. Probing
    c. Ultrasound
    d. Blood biochemical examination

46. Bradycardia occurs in:
    a. Uremia;
    b. Febrile states;
    c. Jaundice;
    d. Colic.

47. Hepatic biopuncture in carnivours is performed:
    a. Behind the last left rib under radiological examination;
    b. In the 11th intercostal space, by ultrasound;
    c. In the right hemiabdomen, above the midline;
    d. In the left hemiabdomen

48. Indirect percussion of the stomach in carnivores gives a sound:
    a. Tympanic in the upper part;
    b. Hypersonor in the lower part;
    c. Matte in the upper part;
    d. Submate in the lower part.

49. In the typhic state the animal shows:
    a. Absent gaze;
    b. General rapid movements;
    c. Agitated face;
    d. Loss of balance.

50. Achromatic nevi are:
    a. keratotically modified nerve formations
    b. circumscribed cutaneous achromiyas
    c. circumscribed red spots
    d. chronically inflamed portions of cutaneous nerves

51. Pityriasis seborrhoea is expressed clinically by:
    a. reddish-pink crusts and traces of blood
    b. dry crusts
    c. oily crusts
    d. in the form of sebum drying in contact with air

52. Transaminases (AST, ALT) are important for:
    a. liver tests
    b. liver and muscle tests
    c. cerebrospinal fluid analysis
    d. renal analysis

53. Bowel auscultation in the horse aims to:
    a. fluid noises and crepitation noises
    b. waterfall sounds
    b. frequency of noises
    c. waterfall and cyrus noise

54. Intestinal volvulus refers to:
    a. stenosis of the loops with a rare tendency to invagination
    b. refers to flexion and ischaemia
    c. torsion of the loops with mesentery
    d. stenosis and flexion with mesentery

55. Adler's urine test refers to:
    a. Determination of haemoglobin
    b. Determination of ketone bodies
    c. Determination of bile salts
    d Determination of ketonuria

56. Apoplexy:
    a. Results in paralysis
    b. Results in repeated spastic contractions
    c. Represents sudden loss of consciousness, motility and sensitivity
    d. Represents slow loss of motility

57. Incoercible vomiting refers to:
    a. Exhausting, almost continuous vomiting
    b. Repeated vomiting also called vomiting
    c. Vomiting during esophagites
    d. Vomiting during intestinal obstructions and acute gastritis

58. The arm sign appears in the rectal examination being represented by:
    a. The presence of pus on the arm
    b. The appearance of brown droplets on the arm
    c. The appearance of large amounts of mucus on the arm
    d. The appearance of blood drops on the arm

59. The ulcer is:
    a. A profound wound
    b. A wound through lack of substance, with no tendency to heal
    c. A superficial wound involving the epidermis
    d. A wound characterized by no tendency to heal

60. The term asteatosis means :
    a. Lack of sebaceous secretion
    b. Lack of sweat secretion
    c. Inflammation of the skin
    d. Without serious lesions

61. Urinary cylinders occur in case of:
    a. Urethritis
    b. Acute nephritis
    c. Hyperbilirubinemia
    d. glomerulo-nephritis

62. Hemoglobinuria can be:
    a. Because of cardiac pathology
    b. Normally, it should be negative
    c. In blood parasitosis
    d. Occurs in prostatitis

63. Urinary sediment is examined:
    a. Macroscopically after acidification
    b. Microscopically on smear
    c. Macroscopically after centrifugation and acidification
    d. Microscopic after centrifugation

64. Calcium oxalate crystals have a microscopic appearance (shape):
    a. Prismatic and needle-like
    b. Envelope shape
    c. Hexagonal
    d. Fan-shaped

65. Filtration proteinuria in the dog has origin:
    a. Pancreatic
    b. Strictly renal
    c. Vesical(from the urinary bladder)
    d. Vaginal

66. In the dilation of the stomach in the horse, the animal shows:
    a. Penguin attitude
    b. Sitting dog attitude
    c. Barrel shape thorax and abdomen
    d. Orthopneic posture

67. The tendency to walk non-stop (without any direction) is called:
    a. Pulsion
    b. Dromomania
    c. Pirouette
    d. Walking in circle

68. Glucosuria:
    a. Has hyperglycemia as its primary cause
    b. Occurs in diabetes
    c. Represents low blood glucose
    d. Represents increased blood glucose

69. The pale colour (greyish-white) of the mucosa is characteristic of
    a. In anthrax
    b. Severe anemia
    c. In liver diseases
    d. In internal bleeding

70. Acute lymphonoditis shows the following signs:
    a. High local temperature, pain absence, hard consistency
    b. Swelling, pain present, fluctuating or elastic consistency
    c. Normal local temperature, pain present, swollen surface
    d. Absent mobility, swelling, pain present, crepitus

71. Functional changes in the skin are represented by:
    a. Macula and erythema
    b. Hyperhidrosis and hypohidrosis
    c. Sclerodermy and seborea
    d. Crevices and ulcerations

72. Serpiginous ulcers:
    a. Have irregular appearance of the margins and a tendency to move to the surrounding areas
    b. Located on the limbs, along the lymphatic vessels
    c. Have smooth margins and centrally oriented depth
    d. Tendency to extend in depth

73. Glucosuria:
    a. Has hyperinsulinism as its primary cause
    b. Represents low urine glucose
    c. Occurs in diabetes
    d. Represents increased blood glucose

74. Failure to follow the clinical examination plan can lead to :
    a. A faulty and chaotic manner of examination
    b. A good way of examination
    c. Facilitating the diagnosis
    d. Establishing the diagnosis

75. Anamnesis is rarely sufficient to establish a presumptive diagnosis in the case:
    a. Fractures in street accidents
    b. Digestive disorders due to poisoning
    c. Respiratory pathologies
    d. Reproductive disorders

76. Exulceration or erosion is of interest only:
    a. Dermis
    b. Hypodermis
    c. Epidermis
    d. All structures

77. Postrenal proteinuria occurs as a cause of:
    a. Hypoadrenocorticism
    b. Glomerular inflammation
    c. Cystitis
    d. Nephritis

78. Enanthema of the mucous membranes is manifested by the appearance of:
    a. Congested patches on their surface
    b. Haemorrhagic spots on their surface
    c. Jaundiced spots on their surface
    d. Areas of cyanosis

79. Epiphora occurs because of:
    a. Tear hypersecretion
    b. Obstruction of the tear duct
    c. Salivary hypersecretion
    d. Parotid gland obstruction

80. Colaluria represents:
    a. Presence of bile salts in the urine.
    b. Presence of bile salts in the blood
    c. Presence of bile pigments in urine
    d. Presence of bile pigments in the blood

81. In carnivores, ketonuria occurs in the following pathology:
    a. Diabetes mellitus
    b. Respiratory pathology
    c. Renal pathology
    d. Cardiovascular pathology

82. The correct terms for movement incoordination and balance disturbances in standing position are:
    a. Dysmetria
    b. Astasia and dizzyness
    c. Aphasia and astasia
    d. Ataxia and astasia

83. The observation sheet includes:
    a. Anamnesis, examination of apparatus and systems
    b. Inspection, palpation, percussion, listening, thermometry
    c. Signalment data, general examination and epicritical examination
    d. Results of laboratory examinations and other combined, special methods

84. Anamnesis represents:
    a. Sex, age, weight and body index of the animal
    b. A discussion with the owner, conducted by the veterinarian
    c. The final part of the observation sheet
    d. The animal's signalling data

85. Deep sensitivity:
    a. Is conferred by kinaesthetic receptors
    b. Occurs in internal organ pain
    c. Represents the animal's ability to maintain normal position in space
    d. May be localised, reflected or generalised

86. On the observation sheet we note:
    a. General and special methods
    b. Attitudes, conformation, constitution
    c. Cost of operations and medicines
    d. Prognosis, diagnosis, recommendations, treatment

87. Superficial sensitivity refers to:
    a. Skin reflexes
    b. Algesia
    c. Aesthetsia
    d. Kinesthesia

88. The examination plan shall include the following steps:
    a. Inspection and probing
    b. Palpation and endoscopy
    c. Anamnesis
    d. Completion of the observation sheet

89. The semnalment sheet:
    a. The colour of the animal and its characteristics
    b. Anamnesis
    c. Body size and weight of the animal
    d. General examination data

90. Exulceration:
    a. Is a synonymous term for erosion
    b. Is synonymous with eschar
    c. Is a lesion accompanied by lymphadenopathy
    d. It is a loss of substance involving only the epidermis

91. Ulcerations can be:
    a. Crateriform, located on the course of lymphatic vessels
    b. Vegetative, with irregular appearance of the edges and a tendency to spread to neighbouring areas
    c. Fagedenic, with a tendency to extend in depth
    d. Serpiginous, with smooth edges and centrally oriented depth

92. Edema of the conjunctival mucosa gives the appearance of oily eyes, called:
    a. Chemosis
    b. Epiphora
    c. Entropion
    d. Ectropion

93. Postrenal proteinuria occurs as a cause of:
    a. Urethral inflammation
    b. Hyperadrenocorticism
    c. Glomerulonephritis
    d. Cystitis

94. Anamnesis follows:
    a. The use of scientific terms in dialogue with the owner.
    b. Establishing maintenance conditions
    c. Establishing a final diagnosis
    d. Setting of a final diagnosis

95. The observation sheet does not include:
    a. Epicrysis
    b. The prognostic
    c. Anamnesis
    d. Fiscal estimate

96. Coluria is a pathological sign for:
    a. Renal failure
    b. Protein loss
    c. Hepatitis
    d. Diabetes

97. Hyperalgia is:
    a. Exaggeration of tactile sensitivity
    b. Exaggeration of pain sensitivity
    c. Decreased pain sensitivity
    d. Lack of tactile sensitivity

98. Hyperketonemia is a consequence of:
    a. Anemia
    b. Prolonged hypoglicemia
    c. Syaloadenitis
    d. Diabetes

99. Cholaluria occurs in case:
    a. Biliary vessel stasis
    b. Pancreatic duct stasis
    c. Hepatocellular jaundice
    d. Renal failure

100. Which of the following is correct:
    a. Crater ulcers have smooth edges and centrally oriented depth.
    b. Vegetative ulcers have a tendency to go forward in depth accompanied by the reaction of lymph nodes and lymphatic vessels
    c. Fagedenic ulcers have irregular appearance of the edges and a tendency to spread to adjacent areas
    d. Serpiginous ulcers are localised to the hind limbs along the lymphatic vessels