UNIVERSITY OF AGRONOMIC SCIENCES AND VETERINARY MEDICINE
FACULTY OF VETERINARY MEDICINE
Splaiul Independenţei 105, sector 5, 050097, BUCHAREST, ROMANIA
Tel.: + + 4021 318 0469; Fax: + + 40 21 318 0498
www.fmvb.ro, e-mail: info@fmvb.ro

DEPARTMENT: PRECLINICAL SCIENCES

DISCIPLINE: ANATOMY

Course responsible teacher: Assoc. Prof. Cristian BELU, DVM, PhD

TOPICS AND REFERENCES

1. Locomotor system – pelvic and coxo-femoral joints, Viborg triangle, diaphragm muscle, ventro-lateral abdominal muscles (including inguinal tract and white line), propulsor and lifter muscles (caudolateral thigh muscles), medial thigh muscles and femoral triangle, the hock cord.
2. Digestive system – tongue in domestic mammals, stomach in ruminants, liver in domestic mammals,
3. Respiratory system - lungs in domestic mammals
4. Circulatory system (apparatus) – the heart (pericardium, external conformation of the heart, internal conformation of the heart, structure of the heart, vasculature of the heart, differential characteristics of the heart in domestic species, brachiocephalic trunk and pulmonary trunk).
5. Central nervous system – spinal cord and brain (myelencephalon/spinal bulb; mesencephalon – pons, cerebellum, 4th ventricle; midbrain – cerebral peduncles, quadrigeminal tubercles; diencephalon – thalamus/optic layers, hypothalamus, epithalamus, metathalamus, ventricle 3rd; telencephalon – external conformation, internal conformation, meninges).
6. Analyzers – the visual analyzer, the corneous formations of the skin (hoof)

***Total pagini – 100 (text şi imagini*)**

BIBLIOGRAPHY

1. Belu, C., Course material - notes
2. Predoi, G., Georgescu, B., Belu, C., Dumitrescu, I., Anca Șeicaru, Petronela Roșu – Anatomia comparată a animalelor domestice – osteologie, artrologie, miologie. Ed. Ceres, București, 2011 (pag. 158-163)
3. Predoi G., Belu, C., Georgescu, B., Dumitrescu, I. - Anatomia animalelor domestice - angiologie, neurologie, organe de simţ. Ed. Ceres, Bucureşti, 2013 (pag. 7-18, 19-39, 167-183)
4. Coțofan, V., Palicica, R., Valentina Hrițcu, Enciu, V. – Anatomia animalelor domestice, vol 1 – Aparatul de susținere și mișcare. Ed. Orizonturi universitare, Timișoara, 1999 (pag. 255-256, 265-269, 330, 332-333, 341-342, 334-336)
5. Coțofan, V., Valentina Hrițcu, Palicica, R., Predoi, G., Damian, A., Spătaru, C., Carmen Ganță, Enciu, V. – Anatomia animalelor domestice, vol. II – organologie (viscerele). Ed. Orizonturi universitare, Timișoara, 2007 (pag. 77-81, 83, 143-154, 215-222, 287-292, 342, 347, 353, 356-357, 359, 363, 366, 387, 389-390, 391, 392, 395, 397)

QUESTIONNAIRE

150 questions with five appropriate possible answers
(Single select multiple-choice questions)

1 White line of the hoof:

a is marked by a sensitive/dermal sheet
b marks the boundary between the sole and the frog
c marks on the solear face the place where the hoof wall meets the sole
d delimits externally the area where the horseshoes can be fixed
e represents the ventral proeminence of the corneous tubes and the intertubular tissue

2 Perioplic burelet:

a generates corneous tubes from the wall of the hoof
b is situated dorsally to the cutidural burelet
c is in continuity with the podophyllous tissue
d it is continued at the extremities with the velvety tissue of the frog
e is the external structure of the hoof

3 The cutidural burelet:

a it is disposed at the upper edge of the perioplic burelet
b generates the corneous tubes and the intertubular tissue
c generates the keraphillum (*Lamellae epidermales*)
d protrudes under the skin at the coronary edge of the wall
e produces the keratin of the sole

4 Complementary fibrocartilages:

a have the outer face completely covered with skin
b they have no continuity with the bulb of the chusion
c come in contact through the deep face with the lateral and medial recessuses of the distal interphalangeal joint
d they are not present in equines
e are generated by the keratogenic membrane

5 During the operation of the inflammed complementary fibrocartilage of the hoof:

a the distal interphalangeal joint must be in forced extension
b distal interphalangeal joint must be in flexion
c the extension or flexion of the joint does not influence the surgical work
d the nervectomy of the anterior digital nerve should be performed
e the bulb of the chusion must also be removed.

6 The ligament of ergot is located on the lateral sides of:

a postsesamophalangian fascia
b fascia lata
c post-carpal fascia
d fascia of the chusion
e fascia of the frog

7 The bars of the hoof are on the lateral margin of:

a branches of the frog
b heel bulbs
c the tip of the frog
d complementary fibrocartilage
e continuation of the wall of the horn of the hoof

8 Nails can be used to secure a horseshoe:

a in the sole
b in the frog
c inside the white line
d on the white line
e outside the white line

9 At the boundary between the skin and the horn of the hoof is found:

a the solar groove
b cutidural groove
c cutidural burelet
d perioplic burelet
e keratogen tissue

10 Periopla (*Perioplum*) is generated by:

a cutidural burelet (*Dermis coronae*)

b podophyllum (*Lamellae dermales*)
c no answer is correct
d the velutous tissue of the sole (*Dermis soleae*)
e keraphillum (*Lamellae epidermales*)

11 The middle layer of the hoof wall:
a it is thinner than the periopla (*Perioplum*)
b is totally depigmented
c is strongly vascularized
d is generated by the cutidural burelet (*Dermis coronae*)
e it is represented by keraphillum (*Lamellae epidermales*)

12 The internal layer of the hoof wall:
a is the keraphillum, generated by the cutidural burelet (*Dermis coronae*)
b is made up of the corneous tubes and the intertubular tissue
c is strongly vascularized and innervated
d is only represented through keraphillous blades
e is represented by 500 – 600 primary blades which powerfully engage with the structures of the podophyllum (*Lamellae dermales*)

13 The sole:
a represents the parietal portion of the hoof
b has the periphery circumscribed by the frog
c has horn softer than the level of the wall of the hoof
d has horn softer than that of the frog
e presents a concave dorsal face

14 The corneous layer of the sole is produced by:
a keraphillum (*Lamellae epidermales*)
b the cutidural tissue of the sole
c the podophyllous tissue of the sole
d the velutous tissue of the sole (*Dermis soleae*)
e periosteum of the solear face of phalanx III

15 Palmar chusion:
a it is different in conformation in the thoracic limbs compared to the pelvic limbs
b it is in contact with the dorsal face of the aponeurosis that reinforces the palmar aponeurosis
c is in contact with the palmar face of the aponeurosis that reinforces the palmar aponeurosis
d is the only element of the hoof amortization apparatus
e it has a quadrilateral appearance

16 The fascia of the chusion is positioned:
a on the dorsal side of the acropodial region
b only in the metapodial region
c at the deep face of the postsesamo-phalangeal fascia
d between the skin and the postsesamo-phalangeal fascia
e at the tip of the chusion

17 The anterior portion of the wall of the hoof:
a is the lowest
b is the pincers
c it is called the toe (*Pars dorsalis*)
d it is continued posteriorly with the heels
e continues on the solar face forming the bars

18 Branches of the frog:
a are placed on the dorsal face of the frog
b converge in the caudal direction
c they are divergent in the caudal direction

d does not participate in the formation of heel bulbs
e they are separated from the sole by a median groove

19 The anatomical base of the hoof is:
a the distal extremity of the proximal phalanx
b the fetlock joint
c the pastern joint
d represented by the distal half of the II phalanx, the III phalanx and the lesser sesamoid
e the III phalanx

20 The strengthening fascia (aponeurosis) of the palmar/plantar aponeurosis represents:
a the anterior wall of the greater sesamoid sheath
b the anterior wall of the lesser sesamoid sheath
c the posterior wall of the greater sesamoid sheath
d the posterior wall of the lesser sesamoid sheath
e the lesser glenoidian burelet

21 In the solear region the keratogenic membrane is represented:
a only through the velutous tissue of the sole
b only through the velutous tissue of the frog and the bars
c only through the plantar podophyllum (*Lamellae dermales*)
d only through the vellutous tissue of the sole and the frog
e the velutous tissue of the sole, frog, bars and the palmar/plantar podophyllum

22 The solear portion of the hoof in ruminants is represented:
a only through the sole, without the frog and bars
b only through the frog
c only through the bars
d through the bars and the frog
e through the sole and frog

23 The solear portion of the horn of the hoof includes:
a the sole, the frog and the perioplic burelet
b the sole, the frog and the bars
c the sole, the frog and the cutidural burelet
d the sole, the bars and the perioplic burelet
e the sole, the bars and the cutidural burelet

24 The eyeball has an approximately spherical shape in:
a sheep, swine, carnivores and rabbits
b sheep, equines, carnivores and rabbits
c swine, carnivores, bovines and rabbits
d sheep, swine, carnivores, bovines, rabbits
e sheep, bovines, equines, swine, carnivores, rabbits

25 The posterior portion of the fibrous tunic of the eye is represented by the:
a transparent cornea
b retina
c sclerotic
d choroid
e ciliary body

26 The internal side of the sclera is encountered in contact with the choroid through a layer of lax, pigmented connective tissue called:
a sclerocorneal limbus
b transparent cornea
c choroid
d lamina fusca
e visual retina

27 The anterior opening of the sclera is occupied by the cornea, the continuity area represented by the:

a short ciliary arteries
b ciliary nerves
c long posterior ciliary arteries
d lamina fusca
e sclerocorneal limbus

28 The choroid is located between:

a the sclerotic and the retina
b the sclerotic and the ciliary body
c the retina and the ciliary body
d the iris and the retina
e the iris and the ciliary body

29 The ciliary body includes:

a the iris and the ciliary muscle
b the ciliary muscle and the ciliary processes
c the ciliary processes and the iris
d the retina and the ciliary processes
e the retina and the ciliary muscle

30 The anterior chamber of the eye is located between:

a the iris and the lens
b the cornea and the lens
c the cornea and the iris
d the cornea and the retina
e the retina and the lens

31 The posterior chamber of the eye is located between:

a the iris and the lens
b the cornea and the lens
c the cornea and the iris
d the cornea and the retina
e the retina and the lens

32 The junction area between the two portions of the retina (visual and blind) corresponds to:

a the iris
b the lens
c the sclerocorneal limbus
d the ciliary processes
e the ora serrata

33 The optic nerve detaches from:

a the choroid
b the ciliary processes
c the ora serrata
d the optic papilla
e the lens

34 The refractive parts of the eye are represented by:

a aqueous humor, lens and vitreous humor
b aqueous humor, blind retina and vitreous humor
c lens, blind retina and aqueous humor
d lens, blind retina, aqueous humor and vitreous humor
e vitreous humor, aqueous humor and the visual retina

35 The protective annexes of the eye are represented by:

a the orbital cavity, eyebrows and conjunctive

b the orbital cavity, eyebrows and eyelids
c the orbital cavity, eyebrows and the Tenon capsule
d the orbital cavity, the eyelids and the conjunctive
e the orbital cavity, the eyelids and the Tenon capsule

36 The secretory annexes of the eye are represented by:
a mucous glands, sebaceous glands and the lacrimal apparatus
b mucous glands, sebaceous glands and the aqueous humor
c mucous glands, sebaceous glands and the lens
d mucous glands, sebaceous glands and vitreous humor
e vitreous humor, aqueous humor and lacrimal apparatus

37 Tapetum lucidum is present in all mammals except:
a equines
b goats
c swine
d canids
e canids and felines

38 The muscles of the III eyelid in birds are:
a the ciliary and the quadratus muscle
b the quadratus and pyramidal muscle
c the retractor muscle of the eye and the pyramidal muscle
d the dorsal rectus muscle of the eye and the quadratus muscle
e the ventral rectus muscle of the eye and the pyramidal muscle

39 The proper levator muscle of the superior eyelid:
a is thick and cylindrical
b has its origin on the trochlear fosset
c inserts on the external side of the tarsal membrane
d inserts on the tarsus ligament
e is covered by the dorsal rectus muscle of the eye

40 The posterior chamber of the eyeball communicates with the anterior chamber through the:
a choroid
b sclerocorneal limbus
c pupil
d iris
e retina

41 In birds, from the choroid, on the papilla, a pigmented vascular membrane detaches towards the internal chamber. This membrane is called:
a tapetum lucidum
b lens
c choroid
d retina
e pectin

42 The spinal cord has cervical intumescence located between the vertebrae:
a the 5th cervical and the second thoracic
b the fourth cervical and the second thoracic
c the 5th cervical and the 3rd thoracic
d the fourth cervical and the third thoracic
e 5th cervical and 4th thoracic

43 At the level of the dorsal medial face of the spinal cord, the following grooves are present:
a the dorsal median groove, the median ventral fissure and the dorsal collateral groove
b the dorsal median groove, the ventral median fissure and the intermediate groove
c the dorsal median groove, the dorsal collateral groove and in the cervical region an intermediate

groove

d the dorsal median groove, the dorsal collateral groove and in the thoracic region an intermediate groove

e the dorsal median groove, the dorsal collateral groove and in the sacral region an intermediate groove

44 In some regions of the spinal cord (specifically thoracic), at the base of the ventral horns, there is an identifiable more reduced lateral horn with the following function:

a motor

b vegetative

c motor and vegetative

d sensitive

e sensitive and vegetative

45 The dorsal cord of the white matter in the spinal cord is between:

a the dorsal and ventral horn

b between the median ventral fissure and the ventral horns

c between the median ventral fissure and the dorsal horns

d between the dorsal median groove and the dorsal horns

e between the dorsal median groove and the ventral horns

46 The ventral face of the base of the myelencephalon, arranged orally, continues with:

a the cerebral peduncles

b spinal cord

c pons

d quadrigeminal tubercles

e geniculate bodies

47 The trapezoidal body is placed:

a on the ventral side of the pons

b at the level of the bulbar trigone

c on the ventral side of the bulb

d on the dorsal side of the bulb

e at the level of the pontine trigone

48 On the lateral sides of the trapezoidal body, which nerve pairs have their apparent origin:

a VI, VII, VIII

b VII, VIII

c IX, X, XI

d IX, X

e V, VI

49 In the dorsal lateral groove of the mielencephalon are found the apparent origins of the pairs:

a IX, X, XI

b X, XI, XII

c VII, IX, X

d IX, X, XII

e VII, XI, XII

50 The fourth ventricle represents an intranevraxial space arranged on:

a the dorsal face of the spinal bulb

b the ventral face of the spinal bulb

c the dorsal face of the pons

d the ventral face of the diencephalon

e the ventral face of the telencephalon

51 The pons is separated from the myelencephalon by the following groove:

a pontopeduncular

b bazilar

c interpeduncular
d postcvadrigeminal
e bulbopontin

52 The tectal recess of the fourth ventricle enters among the following lobes of the cerebellum:
a declive and lingula
b nodulus and tuber vermis
c pyramis and lingula
d nodulus and lingula
e uvula and nodulus

53 Gray tubercle and mammilary tubercle are formations belonging to:
a metatalamus
b epitalamus
c hypothalamus
d thalamus
e telencephalon

54 Quadrigeminal colliculi belong to:
a myelencephalon
b metencephalon
c mesencephalon (midbrain)
d diencephalon
e telencephalon

55 The posterior perforated area is located on the aboral portion of:
a the interpeduncular fossa
b the pons
c myelencephalon
d cerebellar peduncles
e of the cerebellum

56 The termination of the optical tracts is marked by:
a the medial geniculate body
b lateral geniculate body
c optical chiasm
d anterior white commissure
e posterior white commissure

57 The anterior common hole represents the orifice through which:
a the lateral ventricles communicate with each other
b the lateral ventricles communicate with the fourth ventricle
c the third ventricle communicates with the lateral ventricles
d the third ventricle communicates with the fourth ventricle
e the ventricle of the olfactory lobe communicates with the lateral ventricles

58 On the ventral face of the telencephalon, behind the sylvian fossa, there is a relief that constitutes:
a the olfactory triangle
b corpus callosum
c the olfactory bulb
d piriform lobe
e olfactory peduncle

59 The *septum pellucidum* is a thin membrane of nervous matter which represents a separating wall between:
a the III ventricle and the IV ventricle
b cerebral peduncles
c cerebellar peduncles

d the anterior white commissure and the posterior white commissure
e the two lateral ventricles

60 The corpus callosum presents in sagittal section:

a the trunk of the corpus callosum, the burelet of the corpus callosum, the beak of the corpus callosum and the knee of the corpus callosum
b the trunk of the corpus callosum, the burr of the corpus callosum, the beak of the corpus callosum and the cerebral trigone
c the trunk of the corpus callosum, the burelet of the corpus callosum, the beak of the corpus callosum, the knee of the corpus callosum and the cerebral trigone
d the trunk of the corpus callosum, the burelet of the corpus callosum, the beak of the corpus callosum, the knee of the corpus callosum and pellucid septum
e the trunk of the corpus callosum, the burelet of the corpus callosum, the beak of the corpus callosum, the knee of the corpus callosum, the cerebral trigone and the pellucid septum

61 The internal white capsule in the striated body structure divides the gray matter into two main nuclei:

a gracilis and cuneatus
b caudate and lentiform
c caudate and claustrum
d claustrum and lentiform
e gracilis and lentiform

62 The denticulate ligaments are detached from the external face of:

a dura mater
b arachnoid
c pia mater
d dura mater and pia mater
e arachnoid and pia mater

63 The tenctorium hypophysis is:

a a fibrous fold in the shape of a scythe blade that penetrates the interhemispheric groove
b a fibrous crease located between the caudal extremity of the cerebral hemispheres and the cerebellum
c formed by doubling the material at the level of the Turkish saddle
d formed by doubling the dura mater at the level of the Turkish saddle
e formed by doubling the arachnoid at the level of the Turkish saddle

64 Which is the structure implicated in the formation of choroidal vellum and plexuses that produce cerebrospinal fluid:

a dura mater
b arachnoid
c arachnoid and pia mater
d dura mater and pia mater
e pia mater

65 The fibrous pericardium has origin in the:

a deep cervical fascia
b transverse fascia of the abdomen
c mediastinal septum of the endothoracic fascia
d superficial cervical fascia
e gluteal fascia

66 On the floor of the right atrium is present:

a orifice of the coronary sinus
b right atrioventricular orifice
c orifice of the cranial vena cava
d orifice of the pulmonary artery
e orifices of the pulmonary veins

67 The left atrioventricular orifice:

a is located caudally, provided with a bicuspid or mitral valve
b has a pulmonary valve, consisting of three crescent valves
c it is wide, provided with a triple incised valve, consisting of three cusps
d consists of an aortic valve composed of three crescent valves
e has an intervenous tubercle

68 The left atrium, arranged caudally, has:

a dorsocranial opening of the cranial vena cava
b caudolateral opening of the caudal vena cava
c the orifice of the coronary sinus
d the orifice of the pulmonary trunk
e caudodorsal 4-6 wide orifices, representing the opening of the pulmonary veins

69 The left face of the ventricular mass is crossed obliquely by:

a the longitudinal interventricular subsinuous groove
b the coronary groove
c the intermediate longitudinal groove
d paraconal interventricular longitudinal groove
e two coronary grooves

70 In goats the intermediate longitudinal groove is:

a absent
b rectilinear and reaches the apex
c rectilinear, but does not reach the apex
d very short
e inconstant

71 In bovines, the edge of the left ventricle has:

a a rectilinear intermediate groove, which reaches the apex
b the subsinuous longitudinal interventricular groove
c coronary groove
d caudal vena cava
e the intermediate groove that does not approach the tip of the heart

72 Equine auricules are:

a with very denticulated edges
b smaller than ruminants, but with less denticulated edges
c similar to those of pigs
d larger than ruminants, have less denticulated edges
e similar to carnivores

73 The right auricle in pigs is:

a very well represented, with smooth edges
b low, with slightly denticulated edges
c very well represented with slightly denticulated edges
d low, with strongly denticulated edges
e is similar to the left one

74 The azygos vein (located on the right side) drains in the cranial vena cava in:

a bovine
b swine
c goats
d sheep
e carnivores

75 In which species in the right atrium are opened two cranial vena cavae?

a ruminants
b pigs

c goats
d rabbits
e carnivores

76 In which species the intermediate groove of the heart sometimes appears very short or absent?
a cattle
b pigs
c goats
d rabbits
e carnivores

77 In which species in the right atrium are opened two cranial vena cavae and the caudal vena cava?
a only in birds
b pigs
c goats
d birds and rabbits
e carnivores

78 In pigs, the left subclavian artery detaches directly from:
a the common brachiocephalic trunk
b common carotid artery
c the trunk of the lung
d aortic arch
e right subclavian artery

79 The lingual protuberance is very well developed in :
a large ruminants
b swine
c equines
d felines
e leporids

80 Foliate papillae are absent in:
a equine
b swines
c carnivores
d leporids
e large ruminants

81 On the lingual protuberance in ruminants can be encountered:
a fungiform papillae
b foliate papillae
c lenticular shaped papillae
d nonkeratinized filiform papillae
e nonkeratinized conic papillae

82 In swine the tongue:
a has two tall prominences, located on the lateral sides
b has an elongated median prominence
c lacks both the lateral and the median prominences
d lacks a median prominence
e has a median groove located across the entire length of the tongue

83 In what species does the ventral side of the apex of the tongue have a palpable fibrous chord, the lyssa?
a leporids
b swine
c small ruminants
d dogs

e large ruminants

84 In rabbit, the tongue presents:

a 2 pairs of circumvallate papillae
b 3 pairs of circumvallate papillae
c 4 pairs of circumvallate papillae
d 1 pair of circumvallate papillae
e 5 pairs of circumvallate papillae

85 The ruminal atrium communicates with the reticulum through:

a the cardia orifice
b conical vesicles
c the rumino-reticular orifice
d the reticulo-omasic orifice
e the omaso-abomasic orifice

86 The conical vesicles are separated from the rest of the rumen through the:

a the right longitudinal groove
b the left longitudinal groove
c the rumino-reticular groove
d coronary groove
e cranial pillars

87 The visceral side of the rumen is crossed by :

a The right longitudinal groove
b The left longitudinal groove
c The rumino-reticular groove
d Coronary grooves
e Cranial pillars

88 The parietal side of the rumen is crossed by the:

a the right longitudinal groove
b the left longitudinal groove
c the rumino-reticular groove
d coronary grooves
e cranial pillars

89 In which portion of the compartmentalised stomach in ruminants can be encountered reticular cells of hexagonal shape:

a reticulum
b omasum
c ventral ruminal sac
d abomasum
e ruminal atrium

90 The omasum communicates with the abomasum through:

a The omaso-abomasic orifice
b The reticulo-omasic orifice
c The pyloric orifice
d The cardia orifice
e The ruminal atrium

91 The omasic groove is located between:

a the reticulo-ruminal orifice and the reticulo-omasic orifice
b the cardia orifice and the reticulo-ruminal orifice
c the pyloric orifice and the omaso-abomasic orifice
d the reticulo-omasic and the omaso-abomasic orifice
e the ruminal atrium and the conical vesicles

92 In ruminants, the lesser omentum or the hepato-gastric ligament inserts:

a Around the reticulo-ruminal orifice
b On the greater curvature of the abomasum
c On the lesser curvature of the abomasum
d Around the coronary groove
e Around the cardia orifice

93 In sheep, the reticulum is:
a smaller than the omasum
b equal in size with the omasum
c bigger than the rumen
d equal in size with the rumen
e bigger than the omasum

94 In which of the following species the gall bladder is absent:
a carnivores
b leporids
c Equines
d Swine
e ruminants

95 Which of the five lobes of the liver in equines presents a renal impression:
a The right lobe
b The medial left lobe
c The lateral left lobe
d The caudate lobe
e The quadrate lobe

96 In which species are the interlobar incisures less profound and the liver has 4 lobes?
a Equines
b ruminants
c swine
d felines
e leporids

97 The bottom of the gall bladder in large ruminants:
a does not go beyond the ventral margin of the liver
b goes beyond the ventral margin of the liver
c is located on the diaphragmatic side
d is located between the quadrate lobe and the left lobe
e goes beyond the dorsal margin of the liver

98 In small ruminants the choledochus duct opens in the duodenum:
a with the pancreatic duct
b with the cystic duct
c with the main hepatic duct
d by itself
e with the Santorini duct

99 In which species does the quadrate lobe have a triangular shape:
a equines
b canids
c felines
d leporids
e swine

100 In which species does the right medial lobe of the liver has a triangular, lanceolate shape, going beyond the ventral margin of the liver:
a equines
b canids

c felines
d leporids
e swine

101 The cystic canal is flexuous in:
a equines
b canids
c felines
d leporids
e swine

102 In leporids the liver has:
a 4 lobes
b 5 lobes
c 2 lobes
d 6 lobes
e 3 lobes

103 In which species is the right medial lobe of the liver very well developed and with a rectangular aspect:
a equines
b canids
c felines
d leporids
e swine

104 In which species does the lung not present interlobar fissures?
a swine
b felines
c large ruminants
d canids
e equines

105 The cranial (anterior) portion of the cranial lobe of the right lung in the large ruminant is:
a very reduced
b very well developed, passing under the trachea and deviating the mediastinum to the left
c very well developed, passing under the trachea and deviating the mediastinum to the right
d the same as in swine
e the same as in equines

106 In goats the lobulation is:
a evident across the entire surface of the lung
b absent
c visible on the cranial and caudal lobes
d visible on the cranial and middle lobes
e the same as in sheep

107 The lobulation of swine lungs is:
a visible only on the cranial lobes
b visible on the middle and cranial lobes
c visible only on the caudal lobes
d absent
e visible on the entire surface of the lung but more subtle than in large ruminants

108 In canids, the interlobar fissures of the lung are:
a reduced
b only a little visible between the cranial and middle lobes
c similar to the ones in equines
d very deep, reaching all the way to the hilum

e deep, without reaching the hilum

109 In which species the cranial lobes are of the lung relatively similar:

a swine
b felines
c bovines
d canids
e sheep and felines

110 Lungs in leporids present the aspect of:

a an isosceles triangle
b a right triangle
c a square
d a rectangle
e identical to the cat lungs

111 In which species is the accessory lobe of the lung more reduced and triangle shaped:

a canids
b leporids
c felines
d large ruminants
e equines

112 In sheep, the following ligament is absent from the coxo-femoral joint:

a ligament of the femoral head
b transverse acetabular ligament
c acetabular burelletum
d accessory ligament of the femoral head
e articular capsule

113 The pelvic symphysis represents:

a a joint between the symphysis surfaces of the two coxal bones through a cartilaginous blade
b a joint only between the surfaces of the ilium
c a joint between the surfaces of the sacrum and ilium
d a joint between the surfaces between the sacrum and pubis
e a joint between the surfaces between the sacrum and ischium

114 The sacro-illiac joint is the connection between:

a the auricular articular surfaces between the sacrum and pubis
b the auricular articular surfaces between the sacrum and ilium
c the auricular articular surfaces between the sacrum and ischium
d the auricular articular surfaces between the sacrum and the last lumbar vertebra
e the auricular articular surfaces between the sacrum and the lumbar verterbrae

115 The ligamentary structures of the sacro-iliac joint are represented by:

a dorsal sacro-iliac ligament, ventral sacro-iliac ligament and ilio-lumbar ligament
b dorsal sacro-iliac ligament
c ventral sacro-iliac ligament
d cranial pubic ligament
e arciform ischiatic ligament

116 The sacro-tuberous ligament is encountered in:

a equines
b swine
c felines
d canids
e leporids

117 The sacro-iliac joint is:

a a cartilaginous joint

b just a fibrous joint
c just a synovial joint
d a synostosis
e a combination of synovial joint and fibrous joint

118 The articular surfaces of the coxo-femoral joint are represented by:
a acetabular cavity and femoral head
b acetabular cavity and femoral trochlea
c acetabular cavity and femoral condyle
d glenoid cavity and femoral head
e acetabular cavity and patella

119 In equines, the coxo-femoral joint presents:
a lateral collateral ligament
b femoral meniscus
c intraarticular disc
d articular muscle and the accessory ligament of the femoral head
e dorsal sacro-iliac ligament

120 In which species can the gluteobiceps muscle be encountered:
a only in ruminants
b only in swine
c in equines and swine
d in ruminants and swine
e in ruminants and equines

121 The cranial portion of the femoral biceps muscle has its origin on the:
a sacral spine, on the external side of the sacrosciatic ligament and the gluteal fascia
b sacral spine, on the external side of the sacrosciatic ligament and the thoraco-lumbar fascia
c sacral spine, on the external side of the sacrosciatic ligament and the abdominal tunic
d on the lateral side of the iliac pallet
e on the external angle of the ilium

122 The semitendinous muscle in equines has its origin:
a on the sacral spine, sacrosciatic ligament, on the transverse processes of the first coccygeal vertebrae
b on the sacral spine, the sacrosciatic ligament, the transverse processes of the first coccygeal vertebrae and the ischiatic tuberosity
c on the sacral spine, the transverse processes of the first coccygeal vertebrae and the ischiatic tuberosity
d only on the transverse processes of the first coccygeal vertebrae and the ischiatic tuberosity
e only on the ischiatic tuberosity

123 In which species does the semitendinous muscle insert only on the ischiatic tuberosity:
a swine and carnivores
b swine and ruminants
c equines and ruminants
d ruminants and carnivores
e swine and equines

124 In which species does the semimembranous muscle have its origin on the caudal margin of the sacrosciatic ligament, on the coccygeal fascia and the ischiatic tuberosity:
a swine
b canids
c felines
d leporids
e equines

125 The role of the semimembranous muscle is:
a adductor and extensor of the coxofemoral joint, propulsion and rearing

b abductor and extensor of the coxofemoral joint, propulsion and rearing
c abductor and extensor of the femoral-tibio-patellar joint, propulsion and rearing
d adductor and extensor of the femoral-tibio-patellar joint, propulsion and rearing
e abductor and flexor of the coxofemoral joint, propulsion and rearing

126 The medial side of the femoral trigone is covered by:
a the brachial fascia
b the lateral scapular fascia
c the femoral fascia
d fascia lata
e the crural fascia

127 The bifid origin of the pectineu muscle is on the:
a the iliac crest and the caudal margin of the ischium
b the pectineal crest and the ventral margin of the pubis
c the pectineal crest and the ventral margin of the ischium
d the iliac crest and the ventral margin of the ischium
e the ischiatic tuberosity

128 The distal insertion of the short adductor muscle is on the:
a Caudal and medial side of the femur, proximal to the vascular hole
b Lateral and cranial side of the femur
c Medial and cranial side of the femur, proximal to the vascular hole
d Medial and lateral side of the femur, proximal to the vascular hole
e On the greater trochanter

129 The long portion of the greater adductor muscle inserts distally:
a On the excentric eminence of the lateral condyle of the femur
b On the medial lip of the trochlea
c In the intercondylar fossa
d On the excentric eminence of the medial condyle of the femur
e On the third trochanter

130 The role of the greater adductor muscle is:
a adductor and extensor of the thigh
b adductor and extensor of the crus
c adductor and flexor of the thigh
d adductor and flexor of the crus
e abductor and flexor of the thigh

131 The oesophageal orifice of the diaphragm is located between:
a The left pillar and the left medial pillar
b The right pillar and the right medial pillar
c The two medial pillars
d On the apex of the right pillar
e On the apex of the left pillar

132 The central portion of the diaphragm muscle is called:
a Sternal portion
b Costal portion
c Lumbar portion
d Thoracic portion
e Aponeurotic portion

133 The superficial inguinal ring is an elliptic orifice in the:
a Aponeurosis of the external oblique muscle
b Aponeurosis of the internal oblique muscle
c Aponeurosis of the transverse muscle of the abdomen
d Aponeurosis of the rectus muscle of the abdomen

e Reunited aponeuroses of the oblique muscles

134 The linea alba of the abdomen extends from:

a The ventral side of the VII cervical vertebra to the sternum
b The ventral side of the sternum to the pubic symphysis
c The ventral side of the VII cervical vertebra to the pubic symphysis
d The external angle of the ilium to the pubis
e The internal angle of the ilium to the sternum

135 The inguinal ligament represents:

a A fibrous membrane oriented obliquely in a dorsolateral sense between the prepubian tendon and the coxal tubercle
b A fibrous membrane oriented obliquely ventrally between the prepubian tendon and the linea alba
c A fibrous membrane oriented obliquely dorsolaterally between the prepubian tendon and the femur
d A fibrous membrane oriented obliquely on the medial side of the femur
e A fibrous membrane oriented obliquely on the lateral side of the femur

136 The femoral aponeurosis represents:

a The ascendant membrane resulting from the cleaving of the aponeurosis of the external oblique muscle of the abdomen
b The ascendant membrane resulting from the cleavage of the aponeurosis of the internal oblique muscle of the abdomen
c The descendent membrane resulting from the cleavage of the aponeurosis of the external oblique muscle of the abdomen
d The descendent membrane resulting from the cleavage of the aponeurosis of the internal oblique muscle of the abdomen
e The descendent membrane resulting from the cleavage of the aponeurosis of the transverse muscle of the abdomen

137 The femoral ring is delimited between:

a The pectineal line of the pubis and the inguinal ligament
b The ischiatic tuberosity and the inguinal ligament
c The pectineal line of the pubis and the femoral aponeurosis
d The ischiatic tuberosity and the femoral aponeurosis
e The ischiatic tuberosity and the prepubian tendon

138 The external oblique muscle of the abdomen, by compressing and lifting the visceral mass, has a role in:

a Expiration and extension of the spine
b Inspiration and extension of the spine
c Expiration, urination and adduction of the crus
d expiration, urination and parturition; flexor of the spine and lateral recliner
e abductor and lateral recliner of the crus

139 The external cremaster muscle is formed out of:

a A limited number of fibres detached from the inguinal portion of the internal oblique muscle
b A limited number of fibres detached from the inguinal portion of the external oblique muscle
c A limited number of fibres detached from the inguinal portion of the transverse muscle of the abdomen
d A limited number of fibres detached from the inguinal portion of the rectus muscle of the abdomen
e A limited number of fibres detached from the inguinal portion of the iliac muscle

140 The rectus abdominal muscle has its origin:

a On the prepubian tendon
b On the ventral side of the ischiopubic symphysis
c The ischiatic arcade
d The lateral side of the costal cartilages and the sternal manubrium
e The ventral side of the costal cartilages and the xiphoid appendix

141 The rectus abdominal muscle acts in:

a Inspiration, compresses the viscerae, flexor of the trunk
b Inspiration, compresses the viscerae, extensor of the trunk
c Expiration, compresses the viscerae, adductor of the trunk
d Expiration, compresses the viscerae, flexor of the trunk
e Inspiration, compresses the viscerae, abductor of the trunk

142 The ventral abdominal muscles are represented by:

a External oblique muscle of the abdomen, internal oblique muscle of the abdomen, transverse muscle of the abdomen, rectus muscle of the abdomen
b External oblique muscle of the abdomen, internal oblique muscle of the abdomen, transverse muscle of the abdomen and the iliopsoas muscle
c External oblique muscle of the abdomen, internal oblique muscle of the abdomen, transverse muscle of the abdomen, the rectus muscle of the abdomen and the quadratus lumborum muscle
d The lesser psoas muscle, the internal oblique muscle of the abdomen, the transverse muscle of the abdomen and the rectus muscle of the abdomen
e External oblique muscle of the abdomen, internal oblique muscle of the abdomen, transverse muscle of the abdomen, rectus muscle of the abdomen, quadratus lumborum muscle, iliopsoas muscle, lesser psoas muscle

143 In horse, the prepubian tendon extends laterally with the:

a Inguinal ligament
b Accessory ligament of the femoral head
c Own ligament of the femoral head
d Dorsal sacro-iliac ligament
e Ventral sacro-iliac ligament

144 The muscular portion of the transverse muscle of the abdomen has its origin on:

a The free margin of the thoracic transverse processes and on the internal side of the chondrocostal joints of the asternal ribs
b The free margin of the lumbar transverse processes and on the external side of the chondrocostal joints of the asternal ribs
c The free margin of the lumbar transverse processes and on the internal side of the chondrocostal joints of the asternal ribs
d The free margin of the thoracic transverse processes and on the external side of the chondrocostal joints of the asternal ribs
e The free margin of the lumbar transverse processes and on the internal side of the chondrocostal joints of the sternal ribs

145 The rectus muscle of the abdomen is located inside an aponeurotic sheath formed by:

a Aponeuroses of the external oblique and internal oblique abdominal muscles
b Aponeuroses of the external oblique muscle and transverse muscle of the abdomen
c Aponeuroses of the external oblique muscle and the iliopsoas muscle
d Aponeuroses of the oblique and transverse muscles of the abdomen
e Aponeuroses of the oblique muscles and the lesser psoas muscle

146 The external oblique muscle of the abdomen is completely covered by:

a The thoraco-lumbar fascia
b The gluteal fascia
c Fascia lata
d Yellow tunic
e Other abdominal muscles

147 Ventral abdominal muscles form:

a The floor and lateral walls of the abdominal cavity
b Only the roof of the abdominal cavity
c Only the lateral walls of the abdominal cavity
d Only the floor of the abdominal cavity

e The roof, the floor and the walls of the abdominal cavity

148 The external membrane of the sheath of the rectus abdominal muscle is represented by:

a The aponeurosis of the internal oblique muscle of the abdomen
b A common aponeurosis which results from the interweaving of the aponeuroses for the external and internal oblique muscles of the abdomen
c The aponeurosis of the external oblique myscle of the abdomen
d The aponeurosis of the transverse muscle of the abdomen
e A common aponeurosis resulting from the interweaving of the aponeurosis of the external and internal oblique muscles of the abdomen with the aponeurosis for the transverse muscle of the abdomen

149 The inguinal duct's superior limit is represented by:

a The profound inguinal ring made up of the caudal side of the internal oblique muscle and the superior margin of the dorsal sacro-iliac ligament
b The profound inguinal ring made up of the caudal side of the internal oblique muscle and the superior margin of the ventral sacro-iliac ligament
c The profound inguinal ring made up of the caudal side of the internal oblique muscle and the superior margin of the inguinal ligament
d The superficial inguinal ring made up of the caudal side of the internal oblique muscle and the superior margin of the dorsal sacro-iliac ligament
e The superficial inguinal ring made up of the caudal side of the internal oblique muscle and the superior margin of the inguinal ligament

150 The inferior limit of the inguinal canal is given by:

a The profound inguinal ring
b The inguinal ligament
c The dorsal sacro-iliac ligament
d The superficial inguinal ring
e The ventral sacro-iliac ligament

Assoc. Prof. Cristian BELU, DVM, PhD