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DEPARTMENT: PRECLINICAL SCIENCES

DISCIPLINE: PHARMACOLOGY

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TEMATICA: CAPITOLELE:
1. ANTIBIOTICE
2. MEDICATIA ANTIPARAZITARA
3. MEDICATIA ANTIINFLAMATOARE

BIBLIOGRAPHY

1. **Jim E. Riviere, Mark G. Papich**, (2017) -*Veterinary Pharmacology and Therapeutics -Tenth Edition*, Ed John Wiley& Sons
2. Note de curs, Dr. Alina DRAGHICI

LICENSE EXAM QUESTIONS

1. Choose the wrong answer:
   Antibiotics may have :
   a. Antibacterial activity
   b. antifungal activity
   c. anti yeasts activity
   d. antiviral activity
   e. antiprotozoal activity

2. Choose from the options below an antibiotic with bactericidal action.
   a. Tetracycline
   b. Gentamicin
   c. Erythromycin
   d. Azithromycin
   e. Clindamycin

3. Choose from the options below the antibiotic with bacteriostatic action.
   a. Neomycin
   b. Ampicillin
   c. Oxacillin
   d. Doxycycline
   e. Cefazolin

4. Choose from the quinolones below the one that is used only in veterinary medicine:
   a. Norfloxacine
   b. Enrofloxacine
   c. Ciprofloxacine
   d. Enoxacine
   e. Gemifloxacine

5. Choose the wrong answer:
   a. Vancomycin is a glycopeptide with narrow spectrum of action
   b. Vancomycin is effective in infections with Methicillin-resistant Staphylococcus aureus
   c. Vancomycin has bactericidal action.
   d. The most importnat side effects of vancomycin are nephrotoxicity and ototoxicity
   e. Vancomycin is considered "Last resort" drug in veterinary medicine for the treatment of infections with Staphylococcus aureus

6. Deafness is the main undesirable side effect after prolonged use of:
   a. Tetracycline
   b. Penicillin
   c. Streptomycin
   d. Gentamicin
   e. Cephalosporin

7. Choose an antibiotic that can be effective in treating infectious meningitis:
   a. Ampicillin
   b. Amoxicillin
   c. Rifampicin
   d. Tetracycline
   e. Chloramphenicol

8. Choose from below the substance that is effective against anaerobic bacteria, but also against some protozoa:
   a. Fluoriquinolones
   b. Chloramphenicol
   c. Cephalosporins
   d. Polymyxins
   e. Metronidazole

9. Choose the wrong answer: Chloramphenicol is:
   a. bacteriostatic
   b. rarely used in humans
   c. hematotoxic
   d. widely used in animals of economic interest
   e. forbidden in pets

10. Which of the antibiotics below has the broadest spectrum of action?
    a. Polymyxin B
    b. Cefazolin
    c. Tetracycline
    d. Oxacillin
    e. Polymyxin E

11. Gram negative bacterias have natural resistance to:
    a. Penicilines
    b. Aminoglycosides
    c. Fluoroquinolones
    d. Penicillines, Aminoglycosides, Fluoroquinolones
    e. Polymixin E.

12. From the examples below choose the correct statement:
    a. Florfenicol is a „second line antibiotic”
    b. Florfenicol is an antibiotic used seldon in humans
    c. Florfenicol is an antibiotic used only in humans
    d. Florfenicol is an antibiotic used seldon in animals
    e. Florfenicol is antibiotic used only in animals

13. Choose from the options below an antibiotic that belongs to Category 2 (antibiotics from the „second line”):
    a. Enrofloxacin
    b. Erytromicin
    c. Clindamycin
    d. Streptomycin
    e. Polymixin B

14. Choose from the options below: According to the recommendation of use, Vancomycin belongs to:
    a. First category of antibiotics
    b. Antibiotics from the „second line”
    c. Second category of antibiotics
    d. Third category of antibiotics
    e. Antibiotics from the „first line”

15. „These reserved antimicrobials should be used only when there are no alternative antimicrobials authorized for the respective target species and indication”, is a statement that refers to:
    a. Fluoroquinolones
    b. Cephalosporins
    c. Fluoroquinolones and Cephalosporins
    d. all Fluoroquinolones and Cephalosporins from the 3rd and 4th generation
    e. only Fluoroquinolones and Cephalosporins from the 3rd and 4th generation that reach in the systemic circulation

16. „For antibiotics whenever possible, individual treatment of the affected animal(s) (e.g. injectable treatments) should be preferred to group or mass treatment”is a recommendation made by EMA (European Medines Agency) to reduce the risk of:
    a. Overdosing
    b. Underdosing
    c. Intolerance to the medicinal product
    d. Resistance to the active substance
    e. Toxicity

17. When should we not wait for the results of sensitivity tests to administer an antibiotic?

a. Never
b. When we suspect an etiological agent sensitive to the antibiotic that we intend to use
c. If we use a broad-spectrum antibiotic
d. When we have an emergency
e. If we use the same antibiotic used at another farm where there were animals with similar clinical signs

18. Choose from the below options and complete the statement: "..... should be reserved for the treatment of clinical conditions which have responded poorly, or are expected to respond poorly, to other classes of antimicrobials."
    a. Vancomycin
    b. Enrofloxacin
    c. Tetracicline
    d. Rifamycins
    e. Cefazolin

19. In relation to the current tendency to minimize the risk of of developing and spreading antibiotic resistance, choose from the options below the wrong requirement:
    a. The prescription and dispensation of antimicrobials must be justified by a veterinary diagnosis in accordance with the current status of scientific knowledge.
    b. Antimicrobial susceptibility testing should be carried out to determine the choice of antimicrobial
    c. Antibiotics will be used prophylactically whenever is considered necessary
    d. A narrow-spectrum antimicrobial should always be the first choice
    e. Administering medication to an entire herd or flock should be avoided whenever possible.

20. Choose the wrong steatment:
    a. Antimicrobial metaphylaxis should be prescribed only when there is a real need for treatment
    b. The veterinarian should justify and document the treatment on the basis of clinical findings on the development of a disease in a herd or flock
    c. Antimicrobial metaphylaxis should never be used in place of good management practices
    d. Metaphylaxis can be applied in all categories of animals
    e. Metaphylaxis involves the administration of antibiotics to contact animals, without clinical signs of disease

21. Critically important antibiotics
    a. can not be used in animals
    b. can not be used in pets
    c. can not be used in horses
    d. can not be used in food producing animals
    e. can be used only in young animals in order to increase the chances of survival

22. Currently in the treatment of bacterial meningitis it is recommended to use cephalosporins from the:
    a. 1st generation
    b. 2nd generation
    c. 3rd generation
    d. 4th generation
    e. 5th generation

23. Which of the following antibiotics work by inhibiting nucleic acid synthesis?

a. Enrofloxacine
b. Gentamicine
c. Penicilline V
d. Clindamycin
e. Polimyxin B

24. For the treatment of Lyme disease it is recommended to use cephalosporins from the:
    a. 1st generation
    b. 2nd generation
    c. 3rd generation
    d. 4th generation
    e. 5th generation

25. Inhibition of protein synthesis is not the mechanism of action for:
    a. Aminoglycosides
    b. Tetracyclines
    c. Macrolides
    d. Amphenicols
    e. Beta lactam antibiotics

26. Which of the following antibiotics works by inhibiting cell wall synthesis?
    a. Enrofloxacine
    b. Gentamicine
    c. Penicilline V
    d. Clindamycin
    e. Polimyxin B

27. Cephalosporines are bactericidal and they act :
    a. by inhibiting the bacteria cell wall synthesis
    b. as protein synthesis inhibitior
    c. as an anti 50-ribosome subunit
    d. as a DNA sinthesis inhibitor
    e. as an anti 30-ribosome subunit

28. An antibiotic will have a longer duration of action if:
    a. Cmax after administration is higher
    b. if the percentage of active substance molecules linked to plasma proteins is higher
    c. if the percentage of active substance molecules linked to plasma proteins is lower
    d. Cmax after administration is lower
    e. Tmax after administration is higher

29. MIC represents:
    a. the maximum safe plasma concentration of an administered antibiotic
    b. the minimum safe plasma concentration of an administered antibiotic
    c. the minimum plasma concentration of an antibiotic at which the development of a microorganism is inhibited
    d. the maximum plasma concentration of an antibiotic at which the development of a microorganism is inhibited
    e. The maximum intermediar concentration of an antibiotic.

30. Which is the most important side effect of antibiotics in the GI tract:
    a. suppression of normal flora

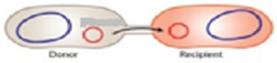
b. toxic effects
c. the intensification of the peristaltis
d. the decrease of the peristaltis
e. antibiotics have no side effects on the GI tract

31. Which of the following practices increases the risk of developing antibiotic resistance?
    a. exceeding the recommended dose
    b. underdosing
    c. administration of an antibiotic for more than 10 days
    d. extrapolation of the administration to other species than the target one
    e. Administration of an antibiotic for more than 5 days.

32. What kind of resistance is that which is predictable and chromosomally mediated?
    a. aquired resistence
    b. natural resistance
    c. resistance to a single antibiotic
    d. multiple resistance
    e. cross-resistance

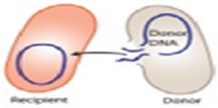
33. Extrachromosomal mutations - are very often (90%). This type of mechanism of resistance to antibiotics consists in transmission of plasmids from one bacteria to another by:
    a. conjugation
    b. phage transduction
    c. transformation
    d. conjugation, phage transduction, transformation
    e. conjugation, transformation

34. Which type of resistance to antibiotics corresponds to the image below?



    a. extrachromosomal mutations by conjugation
    b. extrachromosomal mutations by phage transduction
    c. extrachromosomal mutations by transformation
    d. natural
    e. chromosomal transfer

35. Which type of resistance to antibiotics corresponds to the image below?



    a. extrachromosomal mutations by conjugation
    b. extrachromosomal mutations by phage transduction
    c. extrachromosomal mutations by transformation
    d. natural
    e. chromosomal transfer

36. Which type of resistance to antibiotics corresponds to the image below?

    a. extrachromosomal mutations by conjugation

b. extrachromosomal mutations by phage transduction
c. extrachromosomal mutations by transformation
d. natural
e. chromosomal transfer

37. In emergencies:
    a. we can use a broad-spectrum antibiotic
    b. we choose an antibiotic with a narrow spectrum of action
    c. we wait the results of the laboratory tests
    d. we use the antibiotic we have at hand until the laboratory results arrive
    e. we can use an antibiotic that acts by inhibiting the synthesis of DNA of the microorganisms

38. Choose the exception
    How can healthcare professionals help prevent the spread of antibiotic resistance?
    a. prescribing an antibiotic only when it is likely to benefit the patient
    b. prescribing an antibiotic that targets the bacteria that is most likely causing the patient's illness when an antibiotic is likely to provide benefit
    c. encouraging patients to use the antibiotic in the line of the package leaflet
    d. collaborating with each other, office staff, and patients to promote appropriate antibiotic use
    e. encouraging patients to use the antibiotics for prevention

39. It is contraindicated to associate an immunosuppressive with:
    a. NSAIDs
    b. glucocorticoids
    c. sulfonamides
    d. antibiotics
    e. antivirals

40. Classical NSAID:
    a. inhibit Cox1
    b. inhibit Cox 2
    c. inhibit Cox 1 and Cox2
    d. inhibit Cox1 and stimulate Cox2
    e. stimulate Cox1 and inhibite Cox2

41. Cyclooxygenase 2 could be found in:
    a. normal tissues
    b. inflamed tissues;
    c. both types of tissue
    d. none of the 2 types of tissues none
    e. in greater quantity in inflamed tissue and in smaller quantities in normal tissue

42. Ketoprofen works by inhibiting synthesis of:
    a. PGI2
    b. PGE2
    c. PGF2α
    d. PGI2+PGE2+ PGF2α
    e. PGE2+ PGF2α

43. Choose the exception: The general features of NSAID PK are:

a. usually good bioavailability from oral, intramuscular and subcutaneous administration routes
b. a lower degree of binding to plasma protein
c. low volumes of distribution
d. crosses the placenta
e. most metabolites are eliminated through urine

44. Which of the following effects are not specific for NSAID:
    a. a strong anti-inflammatory
    b. analgesic
    c. antipyretic
    d. antiemetic
    e. prevent aggregation of blood platelets

45. One of the most common side effect to NSAIDs is:
    a. liver failure
    b. kidney failure
    c. GI disorders
    d. skin reactions
    e. Behavioral disorders

46. Administration of an NSAID increases the risk of hypoglycaemia when is associated with:
    a. oxicams
    b. another NSAID
    c. furosemide
    d. acepromazine
    e. sulfonamides

47. From the list below choose the best analgesic:
    a. acetylsalicylic acid
    b. ibuprofen
    c. metamizole
    d. carprofen
    e. ketoprofen

48. Agranulocytosis is one of the secondary reactions of:
    a. acetylsalicylic acid
    b. ibuprofen
    c. metamizole
    d. carprofen
    e. ketoprofen

49. The anti-inflammatory that can cause liver necrosis due to prolonged use is:
    a. paracetamol
    b. diclofenac
    c. carprofen
    d. ketoprofen
    e. indomethacin

50. From the examples below, the analgesic of first intention in young animals and in pregnant could be:

a. ketoprofen
b. carprofen
c. ibuprofen
d. paracetamol
e. metamizole

51. Choose the correct and complete answer: Kelaprofen 100 mg/ml is an:
    a. anti-inflammatory medicinal product
    b. NSAID
    c. antibiotic
    d. corticosteroid
    e. anti-inflammatory product among classic NSAIDs

52. Which of the following active substances is not recomended to be used in the treatment of inflammation in cats:
    a. aspirin
    b. carprofen
    c. ketoprofen
    d. piroxicam
    e. meloxicam

53. Which of the following is an anti-inflammatory active substance that can selectively inhibit Cox2?
    a. meloxicam
    b. nimesulide
    c. celecoxib
    d. meloxicam, nimesulide, celecoxib
    e. meloxicam and nimesulide

54. Choose the wrong answer: Glucocorticoids inhibit inflammation, by:
    a. decreasing primary and secondary response of macrophages
    b. inhibiting the activation of component C3 of the complement
    c. inhibiting the production of collagenase
    d. increasing the release of histamine
    e. inhibiting the production of elastase and cytokines

55. Which of the following substances does not fit with the others in the group of inhibitors of cyclooxygenase-2 ?
    a. meloxicam
    b. nimesulide
    c. robenacoxib
    d. celecoxib
    e. carprofen

56. Choose the wrong answer: Trocoxil 95 mg chewable tablets is a medicinal product:
    a. that contain celecoxib
    b. indicated for the treatment of pain
    c. indicated for the treatment of inflammation associated with degenerative joint disease
    d. for dogs
    e. for cases where continuous treatment exceed one month

57. Thrombostop is a drug indicated for the treatment and prophylaxis of thromboembolic disease. The association with NSAID is:
    a. recommended
    b. not recommended
    c. contraindicated
    d. there are no reactions between the 2 active substances
    e. the 2 substances cancel each other

58. Choose the wrong answer: Flunixin is:
    a. a corticosteroid
    b. a NSAID
    c. an analgesic,
    d. an antinarcotic,
    e. an antiendotoxic

59. In order to reduce the risk of ulcer in dogs in case of long-term administration of antinflamatory drugs, it is preferable to use:
    a. oral solutions with paracetamol
    b. suppository with diclofenac
    c. tablets with mavacoxib
    d. tablets with carprodil
    e. tablets with aspirin

60. Glucocorticoids can determin:
    a. carbohydrate metabolism
    b. protein metabolism
    c. water retention
    d. salt retention
    e. all answers are correct

61. Choose the correct answer: Other effect of glucocorticoids, besides anti-inflammatory, is:
    a. antialergic action
    b. decreases the synthesis of lymphocytes by the thymus, lymph nodes, spleen
    c. increases hemoglobin concentration
    d. action on digestive system by stimulating gastric secretion of pepsin and hydrochloric acid
    e. all answers are correct

62. Choose from the options below a short-acting glucocorticoid:
    a. hydrocortisone
    b. prednisone
    c. methylprednisolone
    d. dexamethasone
    e. triamcinolone

63. Choose from the options below a long-acting glucocorticoid:
    a. hydrocortisone
    b. prednisone
    c. methylprednisolone
    d. dexamethasone
    e. triamcinolone

64. Choose from below what is the most important side reaction following glucocorticoid administration:
    a. steroid diabetes
    b. fluid retention
    c. decreases the ability of the body's defense
    d. steroid diabetes, fluid retention, decreases the ability of the body's defense
    e. glucocorticoids have no sife effects.

65. Choose from the following examples a glucocorticoid obtained from natural sources:
    a. prednisone
    b. prednisolone
    c. hydrocortisone
    d. methylprednisolone
    e. paramethasone.

66. In animals with thrombocytopenia it is contraindicated to administer:
    a. Cephalosporins
    b. Fluoroquinolones
    c. Macrolides
    d. NSAIDs
    e. Any antibiotic

67. Choose the wrong answer: Ketofen 10% solution for injection is a product that contains ketaprofen and it is indicated for:
    a. treatment of infectious mastitis of the dry cows
    b. the alleviation of inflammation and pain associated with musculoskeletal disorders
    c. the alleviation of visceral pain associated with colic
    d. reduction of the pyrexia and distress associated with bacterial respiratory disease when used in conjunction with antimicrobial therapy as appropriate
    e. reduction of pain associated with lameness

68. Easotic Ear Drops Suspension for Dogs - Multidose is a veterinary medicinal product that contains the following active substances: hydrocortisone aceponate, miconazole nitrate and gentamicin sulphate. In what kind of condition can the product be ineffective?
    a. acute otitis externa
    b. acute exacerbation of recurrent otitis externa associated with bacteria
    c. acute otitis caused by *Malassezia pachydermatis*
    d. acute otitis caused by *Otodectes cynotis*
    e. acute otitis caused by *Candida albicans*

69. Betamethasone valerate is a potent synthetic corticosteroid (dexamethasone-analogue) used for topical application. It is indicated for thea treatment of:
    a. pyoderma caused Staphylococcus aureus
    b. intertrigo (allergic contact dermatitis)
    c. fungal dermatitis
    d. viral infection
    e. demodicosis

70. Mastiplan LC, 300mg/20mg (Cefapirin/Prednisolone), intramammary suspension for lactating cows is a medicinal product used for the treatment of clinical mastitis in lactating dairy cows. Taking into account the indication and the active substances from the product, identify the type of etiological agent that cannot be affected by the product.

a. Staphylococcus aureus
b. Escherichia coli
c. Fusobacterium necrophorum
d. Streptococcus agalactiae
e. Streptococcus dysgalactiae

71. A dog infected with Microsporum canis can be treated with:
    a. Imaverol 100 mg / ml Concentrate for Cutaneous Emulsion, a product containing enilconazole
    b. Fungizone 10 %, oral solution, a product containing amphotericin B
    c. Macmiror oinment, a product containing nistatin
    d. any of the above products
    e. an endectocide

72. Which of the following species has a higher sensitivity to Griseofulvin?
    a. cattle
    b. sheep
    c. dog
    d. cat
    e. goat

73. Griseofulvine is not effective in the treatment of:
    a. infection with Trichophyton verrucosum,
    b. infection with Microsporum canis
    c. infection with Microsporum gypseum
    d. infection with Malassezia pachydermatis
    e. ringworms

74. The mechanism of action of ketoconazole consists of:
    a. disruption of multiplication of the fungi
    b. inhibition of the synthesis of ergosterol
    c. increasing the permeability of fungal cell membrane as a result of the modification of the ergosterol structure
    d. modification of the nucleic acid synthesis process
    e. the mechanism of action is not known.

75. Amfotericin B acts by:
    a. disruption of multiplication of the fungi
    b. inhibition of the synthesis of ergosterol
    c. increasing the permeability of fungal cell membrane as a result of the modification of the ergosterol structure
    d. the modification of the nucleic acid synthesis process
    e. The mechanism of action is not known.

76. Identify the "intruder" of the group:
    a. Fluconazol
    b. Itraconazol
    c. Clotrimazol
    d. Terbinafine
    e. Thiabendazol

77. To which groups of active substances do Fluconazol, Itraconazol and Clotrimazol belong?
    a. Polyenes
    b. Other antibiotics
    c. Allylamine derivates
    d. Azole
    e. They belong to another group.

78. Which one from below is not correct when we speak of an ideal anthelmintic? An antihelmintic should have:
    a. high terapeutic index
    b. a narow/targeted spectrum of activity
    c. a short withdrawal period
    d. minimum/no side effects
    e. accessible price

79. The mechanism of action of benzimidazoles consists of:
    a. bind to beta-tubulin and so they compromise the cytoskeleton
    b. inhib the mitochondrial phosphorylation
    c. inhibitors of glycolysis
    d. GABA agonists
    e. inhibitors of acetylcholinesterase

80. Choose from the substances below which one is highly effective against immature Fasciola hepatica in the liver parenchyma and against the mature stage in the bile ducts:
    a. albendazole
    b. triclabendazole
    c. fenbendazole
    d. oxibendazole
    e. thiabendazole

81. Choose from the following substances the one that could be effective against adult flukes, tapeworms and roundws:
    a. albendazole
    b. febantel
    c. fenbendazole
    d. flubendazole
    e. mebendazole

82. Which active substance from the examples below is effective only against roundworms?
    a. triclabendazole
    b. mebendazole
    c. oxfendazole
    d. ricobendazole
    e. oxibendazole

83. If we use Levamisol in a cow, we will not have results if the animal is infected with:
    a. Thelazia spp.
    b. Dicrocelium lanceolatum
    c. Ostertagia ostertagi
    d. Haemoncus contortus

e. Dictyocaulus viviparus

84. The mechanism of action of levamisol consists of:
    a. inhibition of nematode lymph nodes with paralysis of the musculature
    b. disturbance of the energy metabolism of the parasite
    c. interruption of the reproductive cycle
    d. degradation of the integument of the parasite
    e. the mechanism of action is unknown

85. In which species Levamisol is rarely used as antiparasitic active substance but as a immune stimulant:
    a. cattle
    b. sheep
    c. horses
    d. dogs
    e. cats

86. Which of the following active substances is most commonly found in combination with pyrantel for broadening the range of action in dogs?
    a. morantel
    b. actamer
    c. praziquantel
    d. nitroscanate
    e. niclosamid

87. Choose from the following active substance the one that is effective in the treatment of Fasciolosis in sheep:
    a. fenbendazole
    b. oxibendazole
    c. clorsulon
    d. morantel
    e. levamisole

88. Amitraz is an active substance that belongs to the group of:
    a. organochlorines
    b. organophosphorics
    c. formamidines
    d. neonicotinoids
    e. synthetic pyrethroids

89. Choose from the pyrethroids below which one is used in the treatment of varoosis in bees:
    a. deltamethrin
    b. flumethrin
    c. permethrin
    d. tetramethrin
    e. levamisole

90. Which of the following substances is not part of the group of Isoxazolines:
    a. Afoxolaner
    b. Fluralaner
    c. Fipronil
    d. Sarolaner

e. Lotilaner

91. Frontline contains fipronil. It is effective against:
    a. fleas and ticks
    b. fleas, ticks and mange
    c. ticks
    d. fleas
    e. mange

92. Diflubenzuron is part of the group:
    a. amidines
    b. synthetic pyrethroids
    c. benzoylureas
    d. macrocyclic lactones
    e. neonicotinoids

93. Neonicotinoids are not efficient against:
    a. fleas
    b. flies
    c. lice
    d. fleas, flies and lice
    e. mites

94. In the veterinary pharmacies there are products for dogs that contain fipronil and methoprene. These products are not efficient against?
    a. fleas
    b. flies
    c. lice
    d. fleas, flies, lice
    e. mites

95. An endectocide is an active substance efficient against:
    a. internal parasites
    b. external parasites
    c. internal and external parasites
    d. parasites from the GI tract
    e. parasites from respiratory tract

96. Choose the correct answer: Phenylpyrazoles
    a. are inhibitors of GABA
    b. are insecticide and acaricide
    c. are effective against fleas, flies, ticks, lice and mites
    d. are inhibitors of GABA, insecticide and acaricide, effective against fleas, flies, ticks, lice and mites
    e. are inhibitors of GABA, effective against fleas, flies, ticks, lice and mites

97. Which bacterial process(es) do quinolones and fluoroquinolones inhibit?
    a. DNA synthesis
    b. DNA synthesis and RNA synthesis
    c. Quinolones and fluoroquinolones do not affect nucleic acid synthesis
    d. RNA synthesis
    e. Quinolones and fluoroquinolones inhibit the protein synthesis

98. Natural penicillin/s that can be administered by oral route is/are:
    a. ampicillin
    b. methicillin
    c. amoxicillin
    d. phenoxymethylpenicillin
    e. ampicillin, methicillin, amoxicillin

99. Rifampicin exhibits the following antibacterial mechanism of action:
    a. inhibits bacterial RNA synthesis
    b. inhibits protein synthesis
    c. inhibits bacterial wall synthesis
    d. substitution of paraaminobenzoic acid
    e. interferes with the bacterial membrane

100. Aminoglycosides diffuse well into the following biological liquids, with one exception:
    a. pleural fluid
    b. pericardial fluid
    c. ascitic fluid
    d. cerebrospinal fluid
    e. synovial fluid

101. The group of avermectins includes:
    a. Abamectin
    b. Doramectin
    c. Eprinomectin
    d. Selamectin
    e. Abamectin+doramectin+eprinomectin+selamectin

102. What disease cannot be treated with metronidazole?
    a. Giardiasis
    b. Trichomoniasis
    c. Histomonosis
    d. Trypanosomiasis
    e. Coccidiosis

103. Neonocotinoides are not effective against:
    a. Fleas
    b. Flies
    c. Lice
    d. Ctenocephalides sp
    e. Mites

104. Halofuginona is:
    a. An antibiotic
    b. An antifungal
    c. An endectocide
    d. An antiprotozoal
    e. An antihelmintic

105. Toltrazuril is an active substance used for the treatment of:

a. Coccidiosis
b. Bacterian infections
c. Inflamations
d. Viral infetions
e. Contamination with Toxocara in dogs

106. Febantel is used especially in:
a. Cats and dogs
b. Cattle
c. Horses
d. Ruminants
e. Birds

107. Spinosad is an endectocide authorized for use in:
a. birds
b. cats and dogs
c. horses
d. cattle
e. sheep

108. Albendazole should not be administered in:
a. Cattle
b. Lacting cow
c. Dry cow
d. Horses
e. Sheep

109. Lotilaner is an active substance used against:
a. Ticks and fleas in cats
b. Mites in cats
c. Ticks and fleas in dogs
d. Mites in dogs
e. Lices in cats and dogs

110. Choose the exception: Selamectin is an active substance used in pets against:
a. Mites
b. Ticks
c. Fleas
d. Flies and mosquitoes
e. Heartworms