Subjects

for veterinary pharmacology exam Ist Semester, for the students of IIIrd year (English class)

Part I.	
1.	Veterinary Pharmacology, branches and sub-branches of the discipline. The concept of the medicinal product. Food-drug-toxicity relationship.
2.	Name and classification of drugs and Pharmacopoeia. Classification of medicines. Veterinarian and medicine today's medicines.
3.	Veterinary pharmacology research. Stages of drug testing. Veterinary medicinal product legislation. The effective use of medicines. The introduction of new drug classes.
4.	Drug's administration and penetration in the body. Absorption of drugs: oral and per lingual routes.
5.	Absorption of drugs: the poli-compartmented stomach in ruminants.
6.	Drug absorption: gastric and oesophageal mucosa.
7.	Absorption of drugs: The intestinal and rectal mucosa.
8.	Techniques of internal administration. Route: oral and gastrointestinal - managing liquid conditionings
9.	Techniques of internal administration. Route: oral and gastrointestinal - managing of solid drugs.
10.	Techniques of internal administration. Route: rectal.
11.	Techniques of internal administration. Absorption in the respiratory mucosa. Techniques of airway administration.
12.	Absorption through the skin and apparent mucous: skin. conjunctive, genital-urinary.
13.	Techniques of administration through dermal and mucous membranes.
14.	Injectable Parenteral routes. Drugs absorption. The injectable routes technique.
15.	Advantages and disadvantages of the injectable route. Forms bioavailability.
16.	Injectable routes techniques. Route: intra-dermal, subcutaneous implants, intra-muscular.
17.	Injectable routes techniques. Route: intravenous, intra-arterial, intra-peritoneal, intra-thoracic and intra-cardiac injections, intra-thecae, intra-articular.
18.	Drugs transport in the blood: Factors influencing the transport of drugs.
19.	Drugs diffusion. Histo-morphological features.
20.	Factors involved in the distribution of medicines: Pharmacons' solubility, drugs' coupling to proteins.
Part II.	
21.	Diffusion of body fluid spaces: diffusion mechanisms. The role of cell membranes.
22.	Drug diffusion through membranes.
23.	Drug transport: the simple diffusion, involving solvent *("solvent drag")*
24.	Diffusion limited by electrical charges. Lipidic limited diffusion barrier. Facilitated diffusion.
25.	Exchange diffusion. Active transport by carrier. Diffusion by pinocytosis. Phagocytosis and pinocytosis.
26.	The pH - pKa relation and drug diffusion.
27.	Drug distribution in the tissues.
28.	Diffusion through barriers. Body's specialized barriers.
29.	Drugs' redistribution. The consequences of the unequal distribution.
30.	Drug's fixing on the receptors. Drug - receptor interaction.
31.	Activity and receptors' characterization. The receptors mode of action
32.	Receptor nature: Receptors isolation and identification.
33.	The definition of agonists and antagonists: Agonists. Antagonists. Secondary messengers.

34.	Quantifying of coupling response: Clark's, Ariens' and Stephenson's theories.
35.	Quantifying of coupling response: Paton's theory, the activation and enzymologic theories
36.	Drug metabolism: the physiological factors (pharmacokinetic ones).
37.	Drug metabolism: factors related to the animal (pharmacodynamic ones).
38.	Drug metabolism: exogenous factors and the metabolism general stages.
39.	Drug metabolism: drugs' biotransformation.
40.	Drug metabolism: drugs' conjugation.
Part III.	
41.	Drug Excretion: Renal elimination of the drugs.
42.	Drug elimination: digestive and biliary.
43.	Drug elimination: respiratory skin, through milk and eggs.
44.	Pharmacokinetic modelling. Kinetics of disponibilisation. The mono-compartmented model.
45.	Bi-compartmental and tri-compartmental model.
46.	The invasion and evasion constants. The blood level minimum cumulative function (Bateman's) administration discontinuation, enzyme induction.
47.	Pharmacokinetic parameters quantification. Body's response to medication.
48.	Bioavailability and bioequivalence of teh veterinary use drugs
49.	Dose theory: weight, area, therapeutic range, size, genetic variations, digestive anatomy, pregnancy, sex, time of administration and pathology.
50.	Dose theory (tolerance / intolerance, indications, concomitant therapy, amplified / decreased responses incompatibilities enhanced / diminished toxicity.
51.	Dose theory: factors determining frequency of dosing clearance site, determining the concentration, dose rate and size, frequency of administration, infusion rate setting.
52.	Dose theory: plateau effect, repeated administrations effect, stereo specificity, zero order kinetics, drugs residues.
53.	Dose Theory: risk-benefit ratio, dose - effect relationship, action's latency and intensity, duration of action, first-pass effect.
54.	Veterinary pharmacovigilance.
55.	Drugs' combinations: Pharmacokinetic interactions (the absorption, distribution).
56.	Drugs' combinations: the pharmacokinetic interactions (metabolism, excretion).
57.	Drugs' combinations: pharmacodynamic interactions.
58.	Synergistic combinations.
59.	Drugs' unwanted reactions: adverse reactions.
60.	Drugs' unwanted reactions: Antidotism, idiosyncrasy, allergy medications, mutagenic, teratogenic reactions, carcinogenic, tolerance, drug dependence.

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Course titular,
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