PHASE II EXAMINATION

The specialty of veterinary clinical pharmacology requires an advanced knowledge of the factors that complicate rational drug use for diagnosis, treatment and prevention of disease in animals. This examination will evaluate the depth and breadth of the candidate’s knowledge and comprehension of the specialty.

Notification of intent

Eligible candidates must notify the ACVCP of their intent to take Phase II of the certification examination before February 1st of the year of the examination by completing the on-line notification of intent form on the ACVCP website at www.acvcp.org and by paying the required examination fee.

Candidates for the Diplomate Certification Examination shall pay to the College when notification of intent is made to take either phase, an examination fee of $300 for Phase II.

These fees are non-refundable whether or not the applicant takes the exam and must be received by the Secretary-Treasurer post-dated no later than February 1st of each year.

A candidate who is deemed ineligible, or if eligible, who declines to take Phase II of the Examination after notification of intent has been submitted shall be required to pay an additional prescribed fee of $300 when notification of intent is made again to take Phase II.

A candidate who does not pass the Phase II Examination shall be required to complete a notification of intent and to pay an additional prescribed fee of $300 for subsequent reexamination of that failed Phase II.

Examination

The Phase II Examination is a written examination consisting of ten questions. Candidates must have passed the Phase I examination to be eligible for the Phase II Examination. Candidates may take both the Phase I Examination and the Phase II Examination in the same year. If a candidate so desires, he/she must notify the Secretary/Treasurer. The Examinations will be given on consecutive days.

Examination Philosophy

The Phase II Examination is intended to evaluate the candidate's performance in specific areas that define clinical pharmacology. The candidate is expected to be able to apply his/her basic knowledge of the major drug groups and basic principles of clinical pharmacology to problems in veterinary clinical medicine. The Diplomate is expected to understand the basic mechanisms and pathophysiologival features of a wide variety of diseases occurring in animals. The candidate should understand the role of drugs in modifying the disease process, and the potential complications caused by the drugs.
administered. In addition, the candidate should have an understanding of the analytical and statistical methods used to investigate the pharmacokinetics and pharmacodynamics of drugs in clinical patients and experimental animals. The candidate should be familiar with recent advances in chemotherapy and therapeutics of serious illness. The candidate should understand the drug regulations in the United States and the drug approval process used for new animal drugs.

Examination Results and Appeals

Examination results will be sent to all candidates on the same day and within 60 days after completion of the examination. Candidates are not allowed to review their examinations and will not be notified of their total scores; they will be informed of whether their performance was a pass or a failure.

Candidates failing to pass the Diplomate Certification Examination may appeal this decision within 30 calendar days of the postmarked date of notification. The request for appeal must be made in writing to the Secretary-Treasurer and shall include a statement of the grounds for reconsideration and appropriate documentation.

Examination Format

1. Each candidate will be identified on his or her examination with a number known only to the candidate and the Chairperson (or his/her delegate who administers the examination). When grading questions, examiners will be blinded as to the identity of the candidate, and the scores assigned by other examiners. All examiners will be members of the Examination Committee.

2. There will be ten questions on the Phase II written examination, each with ten parts. Each part is equally weighted with 10 points. Therefore, each question is worth 100 points. The questions shall each represent information from one of 4 Subject Categories: (i) Therapeutics, (ii) Pharmacokinetics and Therapeutic Drug Monitoring, (iii) Experimental Design, Statistics and Analytical Methods and (iv) Regulatory Pharmacology. Subject Categories are described in detail below.

3. Ideally, every question will be scored by 6 members of the Examination Committee. No more than six examiners will score each question. A minimum of 5 examiners must score each question.

4. Each part of each question will be scored by each examiner using one of the following categories: a) 0 = Completely incorrect b) 5.0 = Strong fail c) 6.5 = Weak fail d) 7.5 = Weak pass e) 9.0 = Strong pass f) 10 = Completely correct

5. Each examiner's total score for each question is the sum of the numerical score for each of the ten constituent question parts.

6. The score for each question of each candidate is the mean of the (five or six) examiners' total scores for that question.

7. A candidate's score for the Phase II Examination is the mean of all 10 written questions. A score greater than or equal to 70.0% is required for passing.

8. Use of a computer to write your answer is permitted. If you wish to use a computer you must notify the Examination Committee Chairman before the deadline set each year. A suitable desktop computer and software will be provided. You are not permitted to use your own computer.

9. Ordinarily the examination will take place from 8:00 to 12:00 and 2:00 to 6:00 on the test day. You will be notified of the results within 60 days of the test date.

10. You must notify the Examination Committee Chairperson if you have a medical problem, impairment, or disability that requires any special assistance or accommodation for the examination. This notification is needed 30 days
prior to the examination date.

**Subject Categories.**

Within each Subject Category several subject areas may be represented on any given examination:

i. Therapeutics - 4 questions
   1. Management of pain.
   4. Management of medical emergencies (for example, circulatory shock, heart failure, cardiac arrhythmias, pulmonary edema, thromboembolism, diabetic ketoacidosis, seizures, bronchoconstriction, hypoglycemia, hypocalcemia, gastrointestinal hemorrhage, neoplasia, etc.)
   5. Management of specific organ failures and neoplasia.
   6. Recognition and management of drug toxicity and adverse drug reactions of either an acute or chronic nature.
   7. Recognition and management of drug interactions.

ii. Pharmacokinetics and Therapeutic Drug Monitoring - 2 questions
   8. Factors affecting drug disposition and drug action (pharmacokinetics and pharmacodynamics), including physiologic state (e.g. species, age, gender, etc.), pathological state (disease) and drug interactions.
   9. Evaluation of drug therapy in patients through the application of therapeutic drug monitoring, pharmacokinetic, and pharmacodynamic methods.
   10. Calculation of the dose of drugs from knowledge of the minimum effective drug concentration, bioavailability, effective plasma drug concentrations, route of elimination, and other pharmacokinetic data. Similarly, the candidate should be able to modify dosage regimens to accommodate for pharmacokinetic alterations caused by disease.

iii. Experimental Design, Statistics and Analytical Methodology - 2 questions
   11. Interpretation of experimental and statistical data obtained from drug studies performed in vitro, in vivo and ex vivo.
   12. Planning and interpretation of clinical trials for the evaluation of safety and efficacy of veterinary drugs.
   13. Planning and interpreting pharmacokinetic studies in animals.
   14. The use and interpretation of statistical methods to evaluate studies of drugs in animals.
   15. Knowledge of the analytical methods used to detect and quantify drugs in animal body fluids and tissues (for example, GC, HPLC, RIA, ELISA, EMIT, FPIA). The candidate should have a practical competence in assay validation and quality control.

iv. Regulatory Pharmacology - 2 questions
   16. A practical understanding of the process of veterinary drug development and approval.
An understanding of the legal and regulatory considerations pertinent to extra-label drug use, drug compounding, avoidance of violative drug residues in food animals, prescription writing, and responsibilities for using and dispensing controlled substances.

Sources of Study Materials (updated 1/31/2014):

The following list contains references the Examination Committee suggests for use in preparation for the examination. The source of questions is not necessarily limited to this reference list.

The most recent editions of the following textbooks are suggested reading:

11. August JR: Consultations in Feline Medicine, 6th ed, 2010, Elsevier

Download this document for a list of online regulatory information: Regulatory References.doc

Recommended Journals or Items for Review (note that this list is not exhaustive and the prudent examinee would review other relevant journals for other relevant articles, particularly for timely topics). Journals for Review (last 3 to 5 years up to 6 months prior to exam date)

- Journal of Veterinary Pharmacology and Therapeutics
- Journal of the American Veterinary Medical Association
Specific Articles Strongly Recommended:


For consultation only as needed for clarification:

- JVPT-USP Monographs. (Access via the "Resources" tab at the AAVPT Website)

United States Pharmacopeia NF General Chapters

- Chapter 1151 PHARMACEUTICAL DOSAGE FORMS

- Chapter 1160 PHARMACEUTICAL CALCULATIONS IN PRESCRIPTION COMPOUNDING