THE CERTIFICATE IN VETERINARY OPHTHALMOLOGY

SPECIFIC GUIDANCE NOTES FOR CANDIDATES
[These notes must be read in conjunction with the B1 General Guidance Notes to Candidates]

MEMBERSHIP OF THE ROYAL COLLEGE OF VETERINARY SURGEONS

1. It is a requirement of the Veterinary Ophthalmology Board that ALL Candidates entering for the Certificate are Members of the Royal College of Veterinary Surgeons (MRCVS).

SPECIFIC EXPERIENCE

2. The Board recommends that a candidate should spend time with an experienced ophthalmologist (Certificate holder or above) for at least the equivalent of one day a month.

Approved Centre Route:

3. A candidate working in a veterinary centre (as defined in byelaw 5(4)) who wishes to offer one year’s experience must be primarily occupied in veterinary ophthalmology and in the diagnosis and treatment of ophthalmological cases during that year. Alternatively a candidate may offer two year’s part time experience at an approved centre. For both routes a candidate must have been a graduate for at least two years.

Approved Centres for Veterinary Ophthalmology

4. There are currently no establishments that hold approved centre status.

Approved Practice Route:

5. A candidate working in general practice or another branch of the profession, which would not come within the terms of byelaw 5(4), should be involved in veterinary ophthalmology and in the diagnosis and treatment of ophthalmological cases for at least 10% of his time over a period of at least two calendar years. Such candidates would be advised to arrange to spend short periods in veterinary centres [which would be accepted as approved centres in terms of byelaw 5(4)] in order to gain further intensive experience.

6. All candidates will need to be proficient in the use of a slit lamp.
**FINAL APPROVAL OF EXPERIENCE**

7. The candidate must be prepared to gain the necessary theoretical knowledge called for in the syllabus by utilising the reading list, and by private studies. Candidates are also urged to attend any relevant meetings (e.g. conferences, symposia, theoretical and practical courses), which are organised. Participation of this type will be monitored via the RCVS CPD card when considering applications for approval of experience.

**THE EXAMINATION**

8. The examination consists of three Sections:

   (a) 10 case reports
   (b) TWO x 2 hour written papers, and
   (c) Clinical, oral, and practical examination.

**SUBMITTED WORK FOR EXAMINATION**

**Number and Format**

9. **Ten case reports** must be submitted in terms of the following guidelines. **Three copies** of each report should be produced, **two for submission** and one for retention by the candidate. Candidates may be questioned about their reports in the clinical, oral, practical section of the examination.

10. The reports should cover a range of ophthalmological material including **both small and large** animals. The reports should be designed to give good evidence that the writer appreciates how to conduct the examination of the given case and should state clearly the technique of examination involved, the findings and how these are interpreted.

11. Case reports should be typed, double spaced on A4 paper and should be illustrated by appropriate diagrams and photographs (colour or black and white) but not slides. If original records or diaries are included, candidates should ensure that any handwritten originals are legible, otherwise they should be accompanied by typed or printed copies. X-rays should not be submitted separately from the casebooks. If X-rays are included these should be original X-rays, or photographs bound into the casebook. Ideally the case reports should be presented bound into a single holder. Experience has shown that certain forms of binding are unsuitable and that the spirally bound form is best. Each page must be clearly numbered and a suitable index sheet should be included at the front of the binder. Case reports must be presented in English, reported in a structured way, and of a standard that would be considered suitable for publication. Examples of case reports that have achieved these objectives may be viewed in the RCVS Library and Information Service at the College.

12. It is important that the bound reports are anonymous. For the purposes of the examination, candidates should take care to remove their names from any other documents that may be included in the case reports. Cases should be easily identified by the cover sheet provided by the Education Department on issue of the examination entry Form E3, which should be submitted with the cases.
13. The cases are to be reported under the following headings:

(a) Title;
(b) Case history—the patient details; owner’s own observations;
(c) Examination of the patient—description of clinical appearance, examination procedures;
(d) Diagnosis, with reference to differential diagnosis;
(e) Prognosis;
(f) Treatment—what was done—to include follow up examination and outcome;
(g) Discussion. This is an important section of the case report and should demonstrate familiarity with the relevant literature; four or five references from published articles, rather than textbooks, where possible should be cited. Helpful advice would be found in Rossdale, P D, Wade, J F and Jeffcott, L B, on preparing a case report for publication, Equine Veterinary Journal (1988) Vol. 20 (no. 1) pp 7–8.

Candidates are asked to submit an electronic version of their submitted work together with their hard copy. This will be retained at RCVS unless requested by the examiners for purposes such as checking the word count. The electronic version should be Microsoft Office 2000 or XP compatible and should be submitted on CD. Please ensure that the disks are easily identifiable by placing them in an envelope with your name, and ‘Electronic version of submitted work for Certificate in Veterinary Ophthalmology marked clearly on the front.

Word Count

14. Each case report should not exceed 1,000 words (excluding appendices such as references and tables). A word count must be shown on the front of each report.

15. Candidates must indicate on their declaration any help received for each case submitted. Please see the B1 Guidance Notes for a sample of the declaration format.

Grading Scheme

16. The submitted work will be graded “Good Pass”, “Pass”, or “Fail”.

17. Certificate work that achieves a “Good Pass” may be used as a sample for prospective candidates.

Written Examination

18. Candidates are warned that answers should be given specifically and that illegible handwriting may result in examiners being unable to award marks for information which candidates intended to convey.
Format

19. There will be two written papers, each of 2 hours duration.

   **Paper 1** will consist of 15 short answer questions all of which have to be answered.
   **Paper 2** will consist of 5 essay type questions 3 of which must be answered.

   **Marks Scheme:**

   - Paper I will be marked out of 50 marks
   - Paper II will be marked out of 50 marks
   - Total Mark for this Section (b) = 100 marks

**CLINICAL, ORAL, AND PRACTICAL EXAMINATION**

Format

20. The clinical, oral, and practical examination is usually conducted in two separate sessions during the day. The timetable for this examination will be available in good time prior to the examination. This may include clinical examination of patients and normal animals, the examination of radiographs, surgical exercises and any other procedures and examinations considered relevant. Emphasis will be placed upon candidates’ ability to use diagnostic instruments and techniques, observe and record clinical information, interpret and discuss the results obtained, and offer prognosis and advice to owners (including hereditary implications where indicated). Candidates may be asked to draw diagrams and to examine slides. Points arising from the submitted case reports may be raised by the examiners, as a small part of the clinical, oral, practical examination.

21. Experience has shown that a number of candidates for the examination are inadequately prepared, and it must be stressed that the examination involves both theoretical and practical work. There is a sufficiency of literature to ensure that adequate theoretical preparation is possible. Despite the paucity of structured tuition and the difficulties of working from practice, candidates should strive to obtain as much good quality practical experience as possible.

22. Candidates will be advised to bring their own diagnostic instruments and ophthalmic equipment to this part of the examination—though equipment may be available should a candidate be unable to bring their own.

   **Marks Scheme:**

   - The clinical examination will be marked out of 50 marks
   - The practical examination will be marked out of 50 marks
   - TOTAL Mark for this Section (c) = 100 marks

**SYLLABUS AND READING LIST**

23. The Board wishes to stress the importance of extensive reading around the subjects of the syllabus, particularly of those books recommended in the reading list which have been
marked by the following symbol •, for specific relevance. It is suggested that candidates might find it helpful to practise their examination technique especially regarding the appropriate allocation of time to written answers.

24. Candidates should note that the reading list for the Certificate and Diploma in Veterinary Ophthalmology was frozen in 2002 and will eventually be withdrawn. Candidates are expected to access literature for themselves and should make use of the RCVS Library and Information Service for this purpose. Candidates should also seek advice on suitable reading matter from their advisers.

ADVISERS

25. Candidates should consult the RCVS Register of Members for a suitably willing and qualified individual (someone holding a Certificate/ Diploma or equivalent) who is familiar with the RCVS Certificate or Diploma examination system and is clinically active. An Adviser should be found prior to enrolment. All applications forms should be countersigned by the Adviser to the effect that he/she has agreed to advise the candidate.

26. Candidates should ensure that they copy the current information documents contained within this information pack for their respective Advisers, in particular, they should ensure that their Adviser receives a copy of the requirements on the submitted work (B2) and the Guidance Notes to Advisers.

ABBREVIATION FOR QUALIFICATION

27. Successful candidates are permitted to use the abbreviation CertVOphthal after their names, in the RCVS Register and Directory, on practice plates, stationery, etc.

Date of origination of document: March 1996
THE ROYAL COLLEGE OF VETERINARY SURGEONS

SYLLABUS FOR CERTIFICATE IN VETERINARY OPHTHALMOLOGY

COMMENTARY

1. The syllabus is presented as a guide to candidates, which sets out systematically the areas of study upon which both the Certificate and Diploma examinations will be based. It should not be considered exhaustive. In both examinations, questions may be set within the broad field of veterinary ophthalmology and examiners will expect that candidates have a sound knowledge of the principles of pathology, medicine and surgery, including anaesthesia.

2. The study of ophthalmology is one single subject and it is impractical to separate the syllabus for the Certificate examination from that for the Diploma examination. Any such division would necessarily be quite arbitrary and could give the impression that Certificate candidates should not be concerned with the subject areas that were listed for the Diploma examination. The distinction between Certificate and Diploma studies rests with the breadth and depth to which the candidates are expected to work and it is hoped that the manner in which the syllabus is set out will encourage all candidates to read widely in the literature and to develop their appreciation of ophthalmology as fully as possible.

3. Certificate candidates should possess both the theoretical and practical knowledge of veterinary ophthalmology as it applies to modern veterinary practice, a field of study, which is constantly enlarging. To achieve this level of expertise it is expected that candidates will be required to devote 10 - 20% of their professional time to this work. In the Certificate examination emphasis will be placed on -

(a) ability to conduct ophthalmic examinations;
(b) familiarity with the use of the diagnostic instruments employed in practice;
(c) ability to describe clinical findings and to indicate how these substantiate diagnoses;
(d) examples of advice that should be given to the animal’s owner together with an outline of any therapy that may be indicated;
(e) systematic case recording will be assessed on the series of case reports that are to be submitted as part of the examination. Discussion on these case reports may be included in the examination.

Any of the regularly occurring ocular diseases may be discussed including those conditions that are certified and are under investigation for the BVA/KC/ISDS Eye Scheme.

4. Diploma candidates will be expected to possess the extensive knowledge of veterinary ophthalmology required at specialist level. This requires an in-depth understanding of the scientific basis of ophthalmology including -

(a) full anatomical details of the eye and adnexa (gross and microscopic);
(b) thorough knowledge of ocular embryology and associated developmental abnormalities;
(c) the pathology and pathogenesis of eye disease, including exfoliative cytology;
(d) the physiology and biochemistry of the eye;
(e) knowledge of electrophysiological and ultrasonographical techniques will also be expected.

Familiarity with the full range of case investigation required to establish diagnoses and to elucidate aetiology and pathology of conditions that require special investigation is expected. Candidates should be able to discuss all forms of therapy, including intra-ocular surgical techniques and be able to give well reasoned advice to animal owners or colleagues on management regimes for any form of ocular disease of individual animals or groups. To achieve this level of expertise candidates will be required to read extensively in both veterinary and medical ophthalmological literature and to be familiar with recent research activities in both fields.

SYLLABUS

1. STRUCTURE AND FUNCTION OF THE EYE

1.1 Embryology

The embryological development of the normal mammalian eye, including tissue differentiation, vascular development and post-natal development.

Developmental abnormalities of the eye and adnexa.

1.2 Anatomy

The gross and microscopic structure of the eye and adnexa:-

- orbit, extraocular muscles and orbital fascia
- eyelids
- lacrimal apparatus
- conjunctiva
- cornea, limbus, episclera and sclera
- uveal tract (including tapetum)
- lens and zonule
- vitreous body
- retina
- optic nerve
- vascular and nerve supply
1.3 **Physiology**

The physiology and biochemistry of the eye:-

- tear film, lacrimal secretion and drainage
- corneal hydration and transparency
- aqueous formation, circulation and drainage; intraocular pressure control
- lens metabolism and transparency
- retinal physiology (including photochemistry of vision and electrophysiology)
- visual pathways
- extraocular muscles and their action; proprioceptive reflexes
- pupillary light reflexes, effects of drugs on pupil size
- protective and other ocular reflexes
- principles of optics, image formation, accommodation, refractive errors

2. **EXAMINATION OF THE EYE**

- routine examination procedures
- clinical ophthalmic instruments and their optics
- examination of the eyelids, ocular surface and anterior segment employing focal and general illumination
- preocular tear film investigation
- slit-lamp biomicroscopy
- intraocular pressure assessment (tonometry)
- gonioscopy
- examination of the fundus (direct and indirect ophthalmoscopy)

- fundus photography
- electoretinography, visual evoked responses
- diagnostic radiology of the eye and nasolacrimal apparatus
- other imaging techniques (e.g. ultrasonography, CT scans and MRI)
- exfoliative cytology
- biopsy techniques, tissue fixation and processing
- systematic case recording

3. **DISEASES OF THE EYE AND ADNEXA**

(for injuries and neoplasia see separate sections)
3.1 **Upper and lower eyelids**
- entropion
- ectropion
- distichiasis
- ectopic cilia
- trichiasis
- ankyloblepharon
- symblepharon
- lagophthalmos
- ptosis
- blepharitis
- chalazion
- hordeolum
- dermatoses

3.2 **Third eyelid**
- deformities (eversion, inversion, scrolling)
- prolapsed nictitans gland
- prominence
- inflammatory conditions (including plasma cell infiltration)

3.3 **Lacrimal system**
- lacrimation
- epiphora
- diseases of the lacrimal and accessory lacrimal glands; keratoconjunctivitis sicca
- dacryocystitis and dacryoadenitis
- congenital and acquired anomalies of the puncta, canaliculi and nasolacrimal duct

3.4 **Conjunctiva**
- dermoids
- conjunctival inflammation (chemosis, hyperaemia, haemorrhage, discharge)

3.5 **Cornea**
- dermoids
- keratitis: specific (e.g. chronic keratitis - pannus, feline corneal sequestrum, feline eosinophilic/proliferative keratitis, infectious bovine and ovine keratoconjunctivitis) and non-specific forms
- ulceration
- degenerations, dystrophies and infiltrations
- distortions (keratoconus, keratoglobus)
- differential diagnosis of corneal opacification, vascularisation and pigmentation
3.6 Episclera and sclera
- episcleritis
- benign fasciitis
- scleritis
- scleral ectasia

3.7 Uveal tract
- congenital defects (e.g. persistent pupillary membrane, colobomata, anomalies of pigmentation)
- anterior uveitis, posterior uveitis and panuveitis
- abnormalities of pupil size, shape and mobility
- aqueous opacities (e.g. flare, hyphaema, hypopyon)

3.8 Glaucoma
- primary glaucoma
- secondary glaucoma

3.9 Lens
- congenital and developmental lens defects
- heritable cataracts
- acquired cataracts
- lens luxation

3.10 Vitreous
- congenital abnormalities (e.g. persistent hyperplastic primary vitreous - PHPV)
- acquired conditions (e.g. opacities, degenerations)

3.11 Retina and choroid
- collie eye anomaly - (CEA)
- retinal dysplasia
- hereditary retinopathies (central progressive retinal atrophy - CPRA, generalised progressive retinal atrophy - PRA, hemeralopia, nyctalopia)
- acquired non-inflammatory retinopathies (e.g. nutritional, metabolic, sudden acquired retinal degeneration - SARD)
- retinitis and chorioretinitis
- retinal detachment
- retinal haemorrhage
3.12 Optic nerve
- aplasia, hypoplasia
- coloboma
- optic neuritis
- papilloedema
- cupping of optic disc
- optic atrophy
- equine proliferative optic neuropathy

3.13 Neuro-ophthalmology
- visual pathways and visual fields
- reflex pathways
- autonomic pathways (eg. Horner's syndrome)
- nystagmus and disorders of ocular mobility
- blindness of central origin

3.14 Orbital and periorbital conditions
Congenital and acquired conditions of the orbit and globe
- microphthalmos, anophthalmos, congenital cystic eye
- exophthalmos
- enophthalmos
- orbital cellulitis, and abscessation
- myositis
- neoplasia
- hydatidosis
- periorbital conditions (e.g. malar abscess, neoplasia, equine ethmoid haematoma)

4. OCULAR NEOPLASIA
Primary and secondary neoplasia of the eye and adnexa and its management.

5. INJURIES
- open and closed injuries of the eye and adnexa
- foreign bodies
- thermal and chemical injuries
- orbital and periorbital fractures
- wound healing

6. OCULAR SIGNS OF SYSTEMIC DISEASE
Many systemic, or generalised, diseases and disorders can have ocular manifestations. Some examples are given.
6.1 **Viral and rickettsial diseases:** canine distemper, infectious canine hepatitis, feline leukaemia, feline peritonitis, feline herpes virus infection, rabies, bovine virus diarrhoea - mucosal disease complex, infectious bovine rhinotracheitis, bovine malignant catarrhal fever, ovine scrapie, hog cholera.

6.2 **Bacterial diseases:** many potential organisms, eg. listeriosis, leptospirosis, tuberculosis, brucellosis, chlamydia species, mycoplasma spp.

6.3 **Protozoal infections:** babesiosis, toxoplasmosis, ehrlichiosis.

6.4 **Mycotic and algal infections**

6.5 **Parasitic infections:** dirofilariasis, toxocariasis, leishmaniasis, onchocerciasis, angiostrongylosis.

6.6 **Neoplastic diseases:** ocular lesions the result of metastases from primary tumours elsewhere in the body, eg. lymphoma, carcinoma, melanoma.

6.7 **Metabolic and nutritional diseases:** diabetes mellitus, dyslipoproteinaemias, inborn errors of metabolism, hypovitaminosis A, thiamine deficiency, taurine deficiency.

6.8 **Toxic agents:** lead poisoning, bracken poisoning.

6.9 **Immune mediated diseases:** allergies, autoimmune diseases.

6.10 **Vascular disorders:** congenital heart disease, hypergammaglobulinaemia, polycythaemia, blood dyscrasias, anaemia, hypertension.

6.11 **Non-specific findings:** pallor, vessel engorgement, cyanosis, haemorrhage, jaundice.

7. **INHERITED OCULAR DISEASE**

   - principles of genetics
   - modes of inheritance
   - test mating
   - control measures
   - pedigree data analysis
   - breed predispositions
8. THERAPEUTICS

- routes of administration of ocular therapeutic agents
- vehicles and preparations
- cleansing agents
- lubricants and tear replacement preparations
- therapeutic soft contact lenses, collagen shields, methacrylate glue etc.
- local anaesthetics
- systemic analgesics
- cauterising agents
- mydriatics: cycloplegics and non-cycloplegics
- miotics
- agents used in the treatment of glaucoma
- antihistamines
- antibacterials, antifungals, antivirals, parasiticides
- steroidal and non-steroidal anti-inflammatory agents
- immunosuppressants
- nutraceuticals
- chemotherapy
- radiotherapy
- cryotherapy, hyperthermia
- electrocautery, catholysis
- medical lasers

9. OCULAR SURGERY

9.1 Principles of ophthalmic surgery

Consideration should be given to the instruments, suture materials and magnification required for extraocular surgery. Species differences must be taken into account with respect to techniques used and response to surgery. Candidates for the diploma must have a working knowledge of intraocular surgery, including pre-operative and post-operative care of the patient and general anaesthesia. Certificate candidates should possess a basic knowledge of the principles of ophthalmic surgery.

9.2 Eyelid surgery

- correction of congenital and acquired lid abnormalities
- canthotomy
- tarsorrhaphy
- reconstructive lid surgery including grafts

9.3 Third eyelid

- correction of congenital and acquired abnormalities
- correction of prolapsed nictitans gland
- third eyelid flaps
- surgical techniques for neoplasia
9.4 **Conjunctiva**
- conjunctival grafts

9.5 **Lacrimal system**
- correction of punctal and nasolacrimal duct abnormalities
- parotid duct transposition

9.6 **Cornea**
- treatment of erosions, ulcers
- keratectomy
- reconstructive surgery
- lamellar and penetrating keratoplasty

9.7 **Anterior chamber**
- surgical approaches
- paracentesis

9.8 **Uvea**
- iris prolapse
- iridectomy
- iridotomy
- ciliary body surgery: cryotherapy, cyclophotocoagulation

9.9 **Glaucoma**
- drainage procedures
- cryosurgery
- diathermy
- laser surgery

9.10 **Lens**
- luxation
- cataract extraction

9.11 **Retina**
- biopsy
- detachment surgery

9.12 **Vitreous**
- vitrectomy
9.13 **Orbit and globe**

- exploratory techniques
- prolapse of the globe
- enucleation
- evisceration
- exenteration
- prosthesis

10. **OCULAR TOXICOLOGY**

The effect of drugs and toxic substances on the eye.

- methods of examination and recording
- toxic effects on the conjunctiva, lacrimal secretions, cornea, uvea (including tapetum), lens (including cataractogenic drugs), retina, visual pathways
- ocular conditions of common laboratory species (eg. congenital lesions, dacryoadenocystitis, light-induced retinopathy)
- selection of species for toxicity testing, species differences relating to toxic effects
- drug-testing and safety evaluation protocols
- role of regulatory authorities

Reading/Reference List

Candidates should note that the reading list for the Certificate and Diploma in Veterinary Ophthalmology was frozen in 2002 and will eventually be withdrawn. Candidates are expected to research the literature for themselves and are recommended to make use of the RCVS Library and Information Service for this purpose (http://www.rcvslibrary.org.uk/, e-mail library@rcvs.org.uk or telephone 020 7222 2021). Candidates should also seek advice on suitable reading matter from their advisers.

The books marked below by the following symbol * are those that the Board considers useful for Certificate candidates. Diploma candidates are expected to read widely in the course of their studies and should therefore be able to exercise their own preferences.

Standard Texts

General Ophthalmology


Small Animal


**CANINE**


**FELINE**


**EQUINE**


**FARM ANIMAL**


**TEXTS CONTAINING USEFUL MATERIAL ON THE EYE**


USEFUL TEXTS - OUT OF PRINT (but may be available at the RCVS library or as interlibrary loan)


(see also ACVO publication 1999: Ocular Disorders Presumed to be Inherited in Purebred Dogs).


**VETERINARY CLINICS OF NORTH AMERICA**


**MEDICAL OPHTHALMOLOGY – USEFUL BOOKS**


OPHTHALMOLOGY JOURNALS (some also available on line)


Veterinary Ophthalmology 1998 onwards.

British Journal of Ophthalmology

Investigative Ophthalmology and Visual Science

Eye.

ADDITIONAL INFORMATION


MEDLINE database – (online/CD-Rom/Internet version of Index Medicus) (freely available as ‘PUBMED’ or ‘Internet GratefulMed’ on Internet).

Unit for Veterinary Continuing Education incorporating Veterinary Audio-Visual Library, Royal Veterinary College, London. Contact Unit VCE for catalogue with current programmes available.

Veterinary Bulletin.

Vetstream.

The accessing of recent publications, as well as useful texts that are now out of print, can be done through the RCVS library website: www.rcvslibrary.org.uk

Sept 1988
Oct 1991
June 1995
Oct 1996
December 1998
February 2002
February 2003
PLEASE ENSURE THAT YOU COMPLETE A FORM E1 (TO BE FOUND IN THE COMMON DOCUMENTS) AND ATTACH IT TO THIS FORM

THE ROYAL COLLEGE OF VETERINARY SURGEONS

SPECIALISATION AND FURTHER EDUCATION

Certificate in Veterinary Ophthalmology

Application for enrolment and initial approval of experience to be completed and returned to the RCVS, Belgravia House, 62–64 Horseferry Road, London SW1P 2AF by 1 November.

PLEASE COMPLETE LEGIBLY IN BLOCK CAPITAL LETTERS THROUGHOUT

Name (in full) ____________________________________________

Address for all correspondence ____________________________________________

__________________________________________________________ Post code __________

Telephone number (for contact during the day): ________________________________

Fax number (for contact during the day): _____________________________________

E-mail address: ________________________________________________

Qualification for entry are you a Member of the RCVS Tick Yes □ OR No □

If yes, please state veterinary degree obtained, name of awarding University and date of graduation and/or date of attaining Membership of the RCVS. Please also state any additional qualification you have.

__________________________________________________________

__________________________________________________________

__________________________________________________________
If no, please give details of the **veterinary qualification** which you hold which entitles you to practise veterinary surgery in your home country (i.e. full degree title, recognised abbreviation, awarding University or other examining body, date obtained, length of course) and **attach a photocopy** of the Degree parchment

Adviser(s)
Give the name of the Adviser with whom you have reached an agreement that he/she will advise you in relation to your preparation for the Certificate examination

Other postgraduate studies
Please state if you are engaged in studies for any other postgraduate qualification and give brief details

Year of Examination
Please state the year in which intend to enter for the Certificate Examination

Approval of experience and permission to submit an entry to the examination
If you consider that you can meet the requirements (see below for experience requirements) for admission to the examination and you wish to submit an entry to the next examination, you may also complete and submit form E2 (application for final approval of experience) together with this application for enrolment and initial approval of experience (El).

I hereby apply for enrolment for the Certificate in Veterinary Ophthalmology.

I enclose the prescribed fee, which I understand to be non-returnable once enrolment has been granted (cheque to be made payable to the RCVS).

Signature                                    Date
Experience

It is necessary for candidates to have attained at least two calendar years of approved experience prior to entry to the examination if you are employed at an approved veterinary practice or establishment (A). Please describe below that experience you have attained or are currently attaining in such a way that the Ophthalmology Board can assess whether it is adequate to meet the requirements of the syllabus.

If you employed primarily within the field of veterinary ophthalmology at an approved RCVS training centre in Veterinary Ophthalmology (B) it is possible to offer only one calendar year of necessary experience by the time of entry to the examination.

If you offer a combination of (A) and (B) the length of experience you require may need to be determined by the Board.

If you wish to gain approval for separate periods of experience, or move to other employment after enrolment please photocopy Annex A of this form. This additional copy should be completed, signed and dated for each period of experience being offered.

Name of veterinary practice or establishment __________________________________________

Please indicate if this is your base or primary workplace ☐ OR Other/second establishment ☐

Address of veterinary practice or establishment __________________________________________

________________________________________________________________________________

Description of position within the above veterinary practice or establishment (e.g. assistant/partner/resident senior clinical scholar etc) _________________________________________

Period of experience at the above veterinary practice or establishment from (month/year) ___________________________ to (month/year) ______________________________

Details of your veterinary practice or establishment (i.e. small/mixed/large animal/referral practice, University, Industry etc.) and number of veterinary surgeons working in your place of employment (if appropriate) ________________________________________
A separate Annex A must be used for each establishment.

Based on the approximate figures for the last twelve months, please provide the details below.

<table>
<thead>
<tr>
<th>Species</th>
<th>Number of new ophthalmology cases for which you have personal responsibility per month</th>
<th>Number of ophthalmology new cases seen each month for which you do not have primary responsibility (i.e. cases seen with a supervisor)</th>
<th>Number of ophthalmology revisited cases seen each month for which you do not have primary responsibility (i.e. cases seen with a supervisor)</th>
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<td>Dogs</td>
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<td>Cats</td>
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<td>Other small mammals (rabbits etc)</td>
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<td>Non-mammals (e.g. birds, fish, reptiles amphibians)</td>
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<td>Farm animals</td>
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Tick yes or no in the box provided.

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<th><strong>Ophthalmic Equipment</strong></th>
<th>Yes</th>
<th>No</th>
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<td>Focal illumination</td>
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<td>Condensing lens(es)</td>
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<td>Magnifying loupe</td>
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<td>Slit lamp biomicroscope</td>
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<td>Direct ophthalmoscope</td>
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<td>Tonometer</td>
<td></td>
<td></td>
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<tr>
<td>State type</td>
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<tr>
<td>Gonioscopy lens</td>
<td></td>
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<tr>
<td>State Type</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Facilities</strong></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Examination area that can be darkened</td>
<td></td>
<td></td>
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<thead>
<tr>
<th><strong>Diagnostic disposables</strong></th>
<th>Yes</th>
<th>No</th>
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<tbody>
<tr>
<td>Ophthalmic stains fluorescein</td>
<td></td>
<td></td>
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<tr>
<td>Ophthalmic stains rose bengal</td>
<td></td>
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<tr>
<td>Schirmer tear test papers</td>
<td></td>
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<tr>
<td>Tropicamide</td>
<td></td>
<td></td>
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<tr>
<td>Topical local anaesthetic</td>
<td></td>
<td></td>
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<tr>
<td>Equipment for obtaining samples</td>
<td></td>
<td></td>
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<tr>
<td>Lacrimal cannulae</td>
<td></td>
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</tbody>
</table>

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<tr>
<th><strong>Other diagnostic equipment</strong></th>
<th>Yes</th>
<th>No</th>
</tr>
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<tbody>
<tr>
<td>Electroretinography</td>
<td></td>
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<tr>
<td>Radiology</td>
<td></td>
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<tr>
<td>Ultrasonography</td>
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<tr>
<td>Other</td>
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<tr>
<td>Specify</td>
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Additional future experience
Please indicate how you intend to gain experience of species that you have not yet included, but which are listed in the table in Annex A.

Place where experience is planned
Type of experience to be gained

Name (block capital letters) _______________________________________________________

Signature ___________________________ Date ________________

PLEASE RETURN ORIGINAL FORM PLUS FOUR COPIES
CERTIFICATE IN VETERINARY OPHTHALMOLOGY

Application for FINAL approval of experience and for permission to submit an entry to the next examination

This form must be completed and returned to the RCVS, Belgravia House, 62–64 Horseferry Road, London SW1P 2AF by 1 November.

NAME in full (block letters)

________________________________________

1. DEGREES/DIPLOMAS/CERTIFICATES (in abbrev. form)
________________________________________

2. ADDRESS for all correspondence (block letters)

________________________________________
Postcode

3. (a) TELEPHONE No(s) (for contact during day) ____________________________

(b) FAX No. (for contact during day) ____________________________

4. DATE OF ENROLMENT: ___________________ (MONTH/YEAR) ______________

5. PERIODS OF EXPERIENCE BEING OFFERED to meet the requirements of the byelaws:

<table>
<thead>
<tr>
<th>Veterinary Practice or Centre (name and address)</th>
<th>Period of employment (from/to)</th>
<th>Signed and Certified by Practice Principal</th>
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If there has been any change in the workload of the establishment, or in your personal workloads, since you applied for enrolment, please give details below:

6. **ATTENDANCE AT RELEVANT SHORT COURSES**
Candidates must fill in the attached CPD Record Card, for each year in which they are applying for approval of experience. Details of all relevant short courses, conferences, and meetings attended should be recorded. Candidates must comply with the annual recommended minimum hours (35) of CPD otherwise final approval of experience and permission to sit the next examination will not be granted.

7. Give details (with dates and names) of any experience gained working alongside an established veterinary ophthalmologist:

8. **OTHER INVOLVEMENT IN RELATION TO VETERINARY OPHTHALMOLOGY**
List any attendances at relevant congresses, conferences, meetings, symposia etc, with dates and venues:

9. **PUBLICATIONS/ARTICLES/PAPERS/LECTURES**
Give details below (including any involvement in the instruction of others at further education or postgraduate level):
10. **ADVISER**

   Have you been in touch with an Adviser? YES/NO
   If Yes, please ask adviser to counter-sign this form

   **NAME OF ADVISER** (block capitals) 

   Signature: ___________________________ Date: ____________________

11. **I HEREBY APPLY FOR FINAL APPROVAL OF EXPERIENCE AND FOR PERMISSION TO SUBMIT AN ENTRY TO THE NEXT CERTIFICATE EXAMINATION IN VETERINARY OPHTHALMOLOGY**

   I certify that the period of experience being offered has not been/is not being offered to meet the requirements of the byelaws for any other RCVS Certificate or Diploma.

12. **CONFIRMATION OF INTENT TO SIT THE EXAMINATION**

   If approval of experience is granted, I do / do not (delete as appropriate) intend to submit an entry to the next examination (closing date for receipt of entries is 1 March).

   Signature: ___________________________ Date: ____________________

**PLEASE RETURN ORIGINAL FORM PLUS FOUR COPIES**

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**THE FOLLOWING SECTION SHOULD BE COMPLETED BY YOUR ADVISER.**

I confirm that I am acting as this candidate’s Adviser.

Name: _____________________________

Signature: ___________________________ Date: ____________________
CERTIFICATE IN VETERINARY OPHTHAMOLOGY - ADVISERS

Candidates should refer to the lists of Certificate holders published in Section 3 of the RCVS Register of Members.

For ‘Role of Advisers’ see – Common Documents.

April 2010
Candidates are required to attempt all 15 questions on this paper, and only short answers are required. The use of simple labeled diagrams is encouraged.

Allow 8 minutes per question.

Illegible handwriting or failure to answer the questions in the form required may result in examiners being unable to award marks for information which candidates intended to convey.

1. A 7 year-old English cocker spaniel has developed right sided facial nerve paralysis and ipsilateral keratoconjunctivitis sicca (KCS). **Justify** your treatment regimen for the right eye.

2. **Explain** the risk factors for developing a feline ocular sarcoma. What is the likely prognosis for a 7 year-old cat given this diagnosis on histopathology?

3. You suspect that the cause of chronic epiphora in a one year-old Lhasa Apso is an imperforate ventral punctum (ventral punctual atresia). **Discuss** how you would confirm your diagnosis.

4. **Discuss** the ocular findings associated with systemic hypertension in dogs. Why is the eye a target organ for hypertensive damage?

5. **Describe** the embryonic nutrition system of the lens. What conditions result when this system fails to regress normally and in what breeds is this heritable?

6. **List** the clinical signs associated with *Chlamydophila felis* infection in the cat. What tests are available to confirm the diagnosis and what treatment options are available in the United Kingdom?

7. **Describe** the technique for performing a lateral canthal tendonectomy in the dog. In what situations would this be indicated in the dog?

8. What topical anti-glaucoma agents would you use to treat glaucoma in a horse? **Describe** their mode of action.

9. What are pre-iridal fibrovascular membranes (PIFM)? What are the causes and consequences of PIFM?

10. **By means of annotated diagrams, illustrate** the normal appearance of the fundus in all of the following species:
a. dog  
b. horse  
c. rabbit  
d. cow  
e. guinea pig.

11. **Describe** the mode of action of cyclosporine and the indications for its use in ophthalmic disease.

12. **List** the important features of ocular anatomy in the rabbit indicating, where relevant, their role in ophthalmic disease in this species.

13. **Describe** the surgical management of stromal abscess in the horse.

14. **Describe** the anatomical features of the avian pecten. **List TWO** proposed functions. **Name TWO** other groups of animals which have similar retinal structures.

15. **List THREE** techniques used for imaging the canine orbit. Indicate the **limitations and advantages** of each technique in the investigation of orbital disease.
Candidates are required to answer **THREE** questions out of the following **FIVE** questions on this paper. The use of simple labeled diagrams is encouraged.

Allow 40 minutes per question.

Illegible handwriting or failure to answer the questions in the form required may result in examiners being unable to award marks for information which candidates intended to convey.

1. A 6 month-old Pug is presented with bilateral medial corneal pigmentation and a deep corneal ulcer in the right eye. **Describe** your approach to the management of this case. Include descriptions of the various techniques available for treatment.

2. **Discuss** retinal pigment epithelial dystrophy in the dog, with reference to aetiology, clinical features, diagnosis, management and prognosis. **Compare and contrast** this disease with equine motor neurone disease.

3. A nine year-old crossbreed dog recently imported from Barcelona, Spain, presents with bilateral uveitis. **Discuss** the possible causes of uveitis in dogs and how you would investigate this case.

4. Feline herpesvirus (FHV1) is suspected of being the cause of recurrent unilateral conjunctivitis in a young cat. Several diagnostic tests are available which might help to confirm your diagnosis. **Discuss** the usefulness of these tests in relation to the clinical disease. **Discuss** the treatments available for feline herpes virus and your approach to the treatment of this case.

5. For **ALL** of the following surgical procedures describe indications, anaesthesia and surgical techniques. **Discuss** potential complications for each procedure:
   a) Third eye lid flap placement in the adult bovine (cow/bull).
   b) Enucleation in the rabbit.
   c) Epibulbar dermoid removal in the horse.
   d) Implantation of a supra-choroidal sustained release cyclosporine implant in the horse.