



The Royal College of **Pathologists**

Pathology: the science behind the cure

Part 1 examination

Veterinary Pathology: Second paper Species Group Pathology: Laboratory Animals

Tuesday 23 September 2014

Time allowed: 3 hours

Section 1- Essay questions

Candidates must answer THREE questions ONLY in this Section. Candidates are advised to allocate approximately 40 minutes to each essay attempted in this Section.

1. Discuss the range of lesions that may affect the cardiovascular system of dogs and comment on useful biomarkers.
2. Compare and contrast haemopoietic tumours in laboratory rats and mice
3. Compare and contrast mammary tumours in the dog and rat. Comment on their possible causes and human relevance
4. Inhalation pathology requires a thorough knowledge of the anatomy and physiology of the upper respiratory tract. Discuss with respect to species differences and human relevance
5. Write an essay on gastrointestinal disease in laboratory housed non-human primates.

Section 2 - Short notes questions.

Candidates must answer THREE questions ONLY in this Section; all three parts of each question to be answered

1. Write short notes on the following:
 - a) immunodeficiency virus infection in non-human primates
 - b) the clinical and pathological findings associated with adenovirus type 2 infections in dogs
 - c) the pathogenesis and pathology of Sendai virus including their impact on diagnoses
2. Write short notes on 3 of the following:
 - a) Nutritional myopathy in laboratory animals
 - b) immune-mediated arthritis of mice and utility as an animal model for Man
 - c) the pathogenesis and pathology of Dysautonomia
 - d) leukaemia and the observed pathological findings in rats
3. Write short notes on:
 - a) the utility of cell proliferation data in rodents in cancer risk assessment
 - b) the pathology of lesions that may be associated with intravenous injections
 - c) the appearance of Phospholipidosis, organs affected, and possible consequences
4. Write short notes on 3 of the following:
 - a) the pathological and diagnostic aspects of mesothelioma in rats
 - b) the pathological changes that affect the stroma of the ovary in rodents
 - c) Rat uterine tumours and their possible aetiology.
 - d) the possible causes and consequences of adrenal cortical hypertrophy in the rat
5. Write short notes on:
 - a) Polyoma virus in the hamster
 - b) Clostridial disease in the guinea pig
 - c) *Encephalitozoon cuniculi* infection in rabbits

Discuss the possible consequences of these findings in a, b and c



The Royal College of Pathologists

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Part 1 examination

Veterinary Pathology: Second paper Species Group Pathology: Laboratory Animals

Tuesday 24th September 2013

Time allowed: 3 hours

Section 1- Essay questions

Candidates must answer THREE questions ONLY in this Section. Candidates are advised to allocate approximately 40 minutes to each essay attempted in this Section.

1. Discuss the clinical and pathological features of induced ocular lesions in animals. Comment on how tissue processing techniques affect the evaluation of eye pathology.
2. Discuss the causes and significance of drug-induced hepatomegaly in a 1 month rodent study, the mechanisms involved, and describe how you would address the possible significance of the effect to Man, illustrating your answer with examples of chemically induced hepatomegaly.
3. Describe the types of proliferative lesions which may develop in the thyroid gland of the laboratory rodents. Discuss the pathogenesis and relevance of these lesions to Man.
4. Describe the morphology of the cyclical changes in the reproductive tract of female rats and indicate how this may be modulated by xenobiotics.
5. Discuss spontaneous inflammatory lesions of the intestinal tract of rodents and nonhuman primates, and their relevance to Man.

Please turn over for Section 2 - Short notes questions

Section 2 - Short notes questions.

Candidates must answer **THREE** questions **ONLY** in this Section; all three parts of each question to be answered

- 1) Write short notes on the following:
 - a) Retinal atrophy in mice
 - b) Vacuolation in the brain and/or choroid plexus in toxicological studies
 - c) Hind limb paresis and paralysis in rats

- 2) Write short notes on each of the following:
 - a) Squamous metaplasia of the larynx of rats
 - b) Catheter-induced lesions in rats
 - c) Testis staging in rats

- 3) Write short notes on the pathology and pathogenesis of:
 - a) Periarteritis/arteritis in beagles.
 - b) Spontaneous and/or induced osteoporosis and osteomalacia
 - c) Analgesic nephropathy in rats

- 4) Write short notes on the pathology and pathogenesis of the following, including the impact they may have on experimental results:
 - a) *Pneumocystis carinii* in rats
 - b) Kennel cough complex in beagles.
 - c) *Campylobacter* infections in non-human primates