



The Royal College of **Pathologists**

Pathology: the science behind the cure

Part 1 examination

Veterinary Pathology: First paper- General Pathology

Tuesday 23 September 2008

Candidates must answer FOUR questions ONLY

Time allowed: 3 hours

1. Discuss the changes in pigmentation that may be present in the tissues of animals as a result of pathological processes and indicate how these pigments can be distinguished in tissue sections.

2. Write short notes on each of the following:
 - a. Granulomatous inflammation
 - b. Arachidonic acid metabolites in inflammation
 - c. Fibroblasts in inflammation

3. Write an essay on the pathological conditions that can affect the myocardium of animals. In your answer, indicate how the structural changes involved can be detected and evaluated.

4. Describe the principal cytopathological changes that occur in neurodegenerative diseases of the CNS of animals, and indicate their significance where appropriate.

Please turn over for Questions 5 & 6

5. Write short notes on each of the following:
 - a. Th1 and Th 2 cells
 - b. Ischaemia-reperfusion injury
 - c. Natural killer cells

6. Discuss the morphological, physiological and molecular features of malignancy, giving examples where appropriate.



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Part 1 examination

Veterinary Pathology: First paper- General Pathology

Tuesday 25 September 2007

Candidates must answer FOUR questions ONLY

Time allowed: 3 hours

- 1 Write short notes on:
 - a. the role of $\gamma\delta$ T cells
 - b. the mechanism of killing by cytotoxic lymphocytes
 - c. Major Histocompatibility Class 1 molecules

- 2 Describe the major mechanisms involved in lipid accumulation within cells, giving examples of specific veterinary diseases/conditions characterised by this type of change.

- 3 Write an essay on the inter-relationship of inflammation and neoplasia.

Please turn over for Questions 4, 5 and 6

- 4 Vascular thrombosis plays an important role in the pathogenesis of many diseases of domestic animals. Discuss this statement illustrating your answer with appropriate examples.

- 5 Write short explanatory notes on three of the following four techniques in molecular pathology:
 - a. polymerase chain reaction
 - b. in-situ hybridisation
 - c. microarray analysis
 - d. Western blotting

- 6 Give an overview of pulmonary defence mechanisms in the domestic species. Explain the consequences of malfunction of these mechanisms, using examples from specific diseases.



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Part 1 examination

**Veterinary Pathology: First paper
Tuesday 19 September 2006**

Candidates must answer FOUR questions ONLY
Time allowed: 3 hours

- 1 Outline the different pulmonary defence mechanisms and discuss how they may be affected in disease.**

- 2 Describe the patterns of tissue reaction that are associated with the following organisms or procedures:**
 - a) *Coccidia*
 - b) Repeated intravenous injections
 - c) *Staphylococci*
 - d) *Pneumocystis carinii*.

- 3 Describe the process of metastasis in animals at the cellular and whole-body levels, using specific examples in the veterinary species to illustrate the features that you consider important.**

Please turn over for Questions 4, 5 and 6

- 4 Discuss the disease processes that might result in brain swelling, commenting on the consequences.**

- 5 Describe the mechanisms of free radical generation and injury to cells, giving examples of animal diseases in which free radical formation plays an important role.**

- 6 Write short notes on each of the following:**
 - a) Type III hypersensitivity**
 - b) Antigen retrieval in immunohistochemistry**
 - c) Toll-like receptors**
 - d) The role of dendritic cells in immune function.**