



The Royal College of Pathologists

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 \square \square 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.



The Royal College of Pathologists

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.**



THE ROYAL COLLEGE OF PATHOLOGISTS

Part 1 Examination

Tuesday 20 September 2005

VETERINARY PATHOLOGY

First Paper

Candidates must answer FOUR questions ONLY

Time allowed - THREE HOURS

1. Write short notes on each of the following:
 - a) the use of the polymerase chain reaction in veterinary pathology
 - b) the detection and interpretation of apoptosis in tissue sections
 - c) the use of intermediate filament identification in tumour diagnosis.
2. Discuss the pathogenesis and pathology of oedema in domestic animals.
3. Discuss the process and significance of angiogenesis in tumour growth.

Please turn over for Questions 4, 5 and 6

4. Discuss the processes involved in the production of intracellular accumulation of endogenous pigments. Describe how these substances may be identified in histological sections.
5. Describe the components of the skin immune system. Using examples, explain how this system is involved in the pathogenesis of skin disease in animals.
6. Describe the pathogenesis and histological appearance of degeneration in the liver of animals. Discuss the mechanisms of repair in this organ.



THE ROYAL COLLEGE OF PATHOLOGISTS

Part 1 Examination

Tuesday 21 September 2004

VETERINARY PATHOLOGY

First Paper

Candidates must answer FOUR questions ONLY

Time allowed- THREE HOURS

1. Write an essay on fixation of tissues for histological, immunohistochemical and molecular analysis.
2. Give an account of thrombosis and thrombo-embolic disease in domestic animals.
3. Compare and contrast normal and neoplastic cell proliferation.
4. Write an essay on lymphocytes in health and disease.
5. Write an essay on recently emerging viral zoonoses.
6. Microbial toxins are responsible for varied pathology in animals. Discuss and illustrate your answer with specific examples.



THE ROYAL COLLEGE OF PATHOLOGISTS

Part 1 Examination

Tuesday 23 September 2003

VETERINARY PATHOLOGY

First Paper

Candidates must answer FOUR questions ONLY

Time allowed- THREE HOURS

1. Outline the contributions and limitations of molecular biology to the discipline of histopathology.
2. Give an account of the infectious and non- infectious causes of vasculitis in animals.
3. Compare and contrast apoptosis and necrosis as mechanisms of cell death.
4. Write an essay on fibroblasts in health and disease.

PLEASE TURN OVER FOR QUESTIONS 5 & 6

5. Safety is of utmost importance in the running of a post mortem and histopathology laboratory facility. Outline the major safety issues and the steps required to ensure safe function of such facilities.
6. Write an essay on the contributions of the pathologist to tumour diagnosis and prognosis.



THE ROYAL COLLEGE OF PATHOLOGISTS

Part 1 Examination

Tuesday 24 September 2002

VETERINARY PATHOLOGY

First Paper

Candidates must answer FOUR questions ONLY

Time allowed - THREE HOURS

1. Recognition of alterations in the size of organs and tissues is an important aspect of pathology. Outline some of the causes and methods of assessment of changes in size.
2. Viruses are responsible for quite varied pathology in animals. Discuss and illustrate your answer with specific examples.
3. Under what circumstances do soft tissues undergo calcification and what are the consequences? Illustrate your answer with specific examples.
4. A neoplasm will interact with its host in a number of ways. Discuss.
5. Discuss the changes which occur in congestive heart failure and the basis for therapeutic intervention at particular stages.
6. Write an essay on the value and limitations of animal models in the study of the pathogenesis and pathology of human diseases.

THE ROYAL COLLEGE OF PATHOLOGISTS

Part 1 Examination

September 2000

VETERINARY PATHOLOGY

First Paper

Candidates must answer FOUR questions ONLY

Time allowed - THREE HOURS

1. Outline the mechanisms of free radical injury of tissues and illustrate your answer with examples from veterinary medicine.
2. Outline the mechanisms that may be involved in the pathogenesis of immunodeficiency in animals.
3. What clinical and pathological features may suggest the possibility of disseminated intravascular coagulation (DIC)? What are the major pathogenetic factors involved in DIC?
4. Give an account of amyloid formation and the diseases with which it is associated.
5. Compare and contrast the processes of healing in the liver and lung.
6. Write an essay on macrophages in health and disease.