



The Royal College of Pathologists

Pathology: the science behind the cure

Part 1 examination

Veterinary Pathology: First paper General Pathology

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. Write an essay on the causes and pathological features of oedema in animals, illustrating your answer with examples. Briefly describe the causes and pathological features of brain oedema.
2. Write an essay on proliferative lesions of the dispersed neuroendocrine system giving examples, and outline the special stains, immunohistochemical markers and electron microscopic features used in the identification of neuroendocrine (APUD) cells.
3. Write an essay on the structure, function and pathology of the endothelial cell, giving examples from the brain, liver, lung and spleen.
4. Using veterinary examples, discuss the processes of apoptosis and necrosis, how they may be differentiated morphologically and by the use of special techniques, and possible sequelae.
5. Using examples of veterinary disease, outline the major mediators and processes involved in the pathogenesis of chronic inflammation and fibrosis.

Section 2 - Short notes questions.

Candidates must answer **THREE** questions **ONLY** in this Section; all 3 parts in each question to be answered.

1. Write short notes on the following:
 - a) Viral induced disease
 - b) Free radical injury
 - c) Fixatives for tissue preservation

2. Write short notes on the following:
 - a) Metaplasia
 - b) Dysplasia
 - c) Atrophy

3. Write short notes on the following:
 - a) DNA microarrays
 - b) Biomarkers
 - c) In situ hybridization

4. Write short notes on the following:
 - a) Retroviruses
 - b) Gastric helicobacters
 - c) Mycobacterial infection



The Royal College of **Pathologists**

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Part 1 examination

Veterinary Pathology: First paper General Pathology

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. Describe the pathogenesis and morphology of renal diseases in animals, using named examples to illustrate your answer.
2. Discuss the molecular and cellular processes involved in angiogenesis associated with tumour growth, and indicate the relative significance of the process in tumour-host biology.
3. Compare and contrast the healing processes that take place in the liver and lungs of animals.
4. Discuss the pathogenesis and pathological appearance of shock in animals.
5. Describe the changes that may commonly be associated with the post mortem state in animals, indicating how you would differentiate these changes from pre-existing pathological changes.

Section 2 - Short notes questions.

Candidates must answer **THREE** questions **ONLY** in this Section; all 3 parts in each question to be answered.

1. Write short notes on the following:
 - a) Use of special stains to identify pigments in tissue sections.
 - b) Diagnostic tumour immunohistochemical marker panels.
 - c) Immunohistochemical markers of cellular proliferation and cell death.

2. Write short notes on the following:
 - a) Platelet activating factor.
 - b) Type IV hypersensitivity in animals.
 - c) Toll-like receptors in animals.

3. Write short notes on the following:
 - a) Intrinsic pathway of the coagulation cascade.
 - b) Cyclins and cyclin-dependent kinases.
 - c) Molecular and cellular mechanism of leucocyte adhesion and transmigration in vessels in inflammation.

4. Write short notes on the following:
 - a) "Fatty change" in tissues and organs.
 - b) Storage diseases in animals.
 - c) Spongiform encephalopathies and TSEs in animals.