



Australian and New Zealand College of
Veterinary Scientists

Fellowship Examination

June 2022

Avian Medicine and Surgery

Paper 1

Perusal time: Twenty (20) minutes

Time allowed: Three (3) hours after perusal

Answer ALL SIX (6) questions

All six (6) questions are of equal value

Answer SIX (6) questions, each worth 30 markstotal 180 marks

Paper 1: Avian Medicine and Surgery

Answer all four (4) questions

1. Answer **all** parts of this question:
 - a) Discuss the anatomical and physiological features of the respiratory system that enable efficient gas exchange in avian species. *(20 marks)*
 - b) Outline the physiological changes that occur in the cardiovascular and respiratory system as they relate to flight *(5 marks)* **and** high altitude *(5 marks)*.

2. Answer **all** parts of this question:
 - a) Describe the body cavities of the avian coelom **and** their relationship to the coelomic organs. *(20 marks)*
 - b) List **three (3)** diseases that lead to coelomic effusion in birds. For **each** disease, outline the pathophysiology of fluid development **and** the locations where you would expect the fluid to accumulate. *(10 marks)*

3. Describe the development of immunocompetence in the newly hatched chick. Include in your answer:
 - maternal
 - egg
 - post-hatching embryonic contribution. *(30 marks)*

Continued over page

4. Discuss the clinical, molecular, **and** epidemiological features of Avian Influenza that make this virus a successful pathogen in poultry species. *(30 marks)*
5. Answer **all** parts of this question:
- a) Discuss the features of a normal avian ECG with reference to the anatomical **and** physiological changes that occur at each stage of the cardiac cycle. *(18 marks)*
 - b) List **three (3)** abnormalities seen in an avian ECG trace under general anaesthesia **and** explain why these occur. *(12 marks)*
6. Answer **all** parts of this question:
- a) Describe the synthesis and metabolism of vitamin D in the avian patient. *(10 marks)*
 - b) Discuss the role of Vitamin D in calcium homeostasis as it relates to a hypocalcaemic hen with dystocia. *(20 marks)*

End of paper