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RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES, MIHINTALE

B.Sc. (General) Degree in Applied Sciences
Second year – Semester I Examination – Oct /Nov 2015

BIO 2209 – ANIMAL PHYSIOLOGY

Time: Two (2) hours

Answer **four** questions and no more.
Illustrate your answers with labelled diagrams where necessary.

1. a) Describe what is meant by the term 'inflammatory response' and state the key events that take place during an inflammatory response.
   b) Briefly explain the differences between an antigen and an antibody.
   c) Infectious viral diseases such as influenza may infect individuals more than once in their lifetime. Explain why this happens. **25 marks**

2. Discuss the structural changes that have contributed to the gradual increase of the efficiency of vertebrate circulatory systems from fish to birds and mammals.

   25 marks

3. Rate of diffusion (R) between two areas is described by the Fick's Law of diffusion. Explain how animals have evolved strategies to increase R in their gas exchange surfaces through natural selection. **25 marks**

4. a) List the major functions of the mammalian kidney.
   b) Discuss the process of glomerular ultrafiltration, including the regulatory mechanisms that influence the glomerular filtration rate. **25 marks**

5. Write short notes on **any three** of the following.
   a) Digestion in stomach
   b) Synapse
   c) Sertoli cells
   d) Cyclic AMP mechanism of hormone action
   e) Regulation of carbohydrates, lipids and proteins by the liver **25 marks**