RAJARATA UNIVERSITY OF SRI LANKA
FACULTY OF APPLIED SCIENCES

B.Sc. (Special) Degree in Applied Biology
Fourth Year – Semester II Examination – April/May 2015

BIO 4306- INTRODUCTION TO GEOGRAPHIC INFORMATION SYSTEMS

Answer **all** questions   Time: Two (02) hours

1. (a) Describe the techniques that is used in pattern analysis   [10 marks]

   (b) Elucidate how spatial correlation is done   [10 marks]

   (c) Explain the term "Moving window averaging"   [05 marks]

2. (a) Define the terms
      i. Accuracy
      ii. Resolution
      iii. Projection and
      iv. Scale   [10 marks]

   (b) Discuss how the Raster and Vector models are separately used for data representation   [05 marks]

   (c) Explain the four types of raster data storage methods   [10 marks]

3. (a) Discuss the details of different types of attribute data   [05 marks]

   (b) Explain with illustrations the *"Tesselations"* in Raster Data Structures   [10 marks]

   (c) Give a detailed account on "Raster Array Representations for <u>multiple</u> layers"   [10 marks]

4. (a) Discuss the terms "Registration" and "Rectification"   [5 marks]

(b) What are the Properties of Map Projections   [10 marks]

(c) Briefly explain the types of coordinates   [10 marks]