

**BSc in Export Agriculture**  
**Faculty of Animal Science & Export Agriculture**  
**Uva Wellassa University**  
**Year IV Semester I**



**End Semester Examination – Dec 2009/Jan 2010**

**Applications of GIS and Remote Sensing (EAG 443-1)**

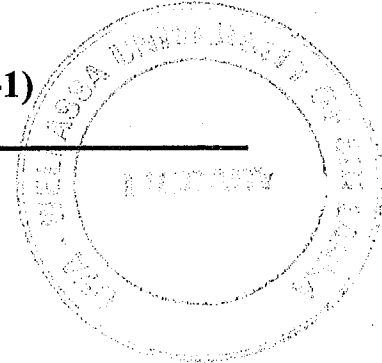
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**Instructions**

Answer **four (04)** questions **including Question 1**

No. of questions : Five (05)  
No. of pages : Two (02)  
Time allocated : One hour (1 hr)  
Total marks allocated : 100

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**Question 1 (40 marks)**

With labeled sketch diagrams explain the following operations performed in digital image processing as applied to remote sensing images.

- a) Contrast stretching (10 marks)
- b) Spatial filtering (10 marks)
- c) Georeferencing (10 marks)
- d) Colour Compositing (10 marks)

**Question 2 (20 marks)**

Giving examples write short notes on the following.

- a) Coordinate systems (10 marks)
- b) Spatial attributes and non-spatial attributes (10 marks)

**Question 3 (20 marks)**

Describe the steps involved in processing and analyzing data in Geographic Information System (GIS) environment for the purpose of decision making.

(20 marks)

**Question 4 (20 Marks)**

Write illustrated notes on the following.

- a) Acquisition of remote sensing images of the earth from a satellite platform (10 marks)
- b) Spatial data models (10 marks)

**Question 5 (20 Marks)**

You have been given the task of selecting new areas suitable for potato cultivation in Nuwara Eliya District of Sri Lanka using GIS. Assume that you have access to all required data available with relevant organizations.

- a) Describe the parameters you would consider as input maps for this analysis and give reasons for your selections. (10 marks)
- b) Propose and explain a suitable model for this analysis considering relative importance of your input maps. (10 marks)

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