EASTERN UNIVERSITY, SRI LANKA

FINAL YEAR FIRST SEMESTER EXAMINATION IN AGRICULTURE – 2013/2014 (September 2015)

AE 4101 – METEOROLOGY AND GEOINFORMATICS

Practical Examination (Paper-1 for 1ˢᵗ and 2ⁿᵈ group)

Answer all question

Time: 2 Hours

NOTE:

- All required data for the practical examination is uploaded in the following directory *D:\PRL_data\Exam* in your computer.
- The answer should be saved in the folder with your index number in the desktop.

1. Fulfilling the following requirements.
    a. Change the colors of DSD layers as *Med Yellow*, outline color in *Cherry cola* and width 2.0.
    b. Change the symbol of Major_Town layer as "Star 5"
    c. Find the "MIHINTALE" Divisional Secretariat Division from DSD layer and bookmark it.
    d. Export data MIHINTALE Divisional Secretariat Division as shapefile and save it as MIHIN. Add the exported data to the Table of contents as a layer and fill the layer's color in "Mars Red".

    *save the map document as Q1.mxd file and remove the all layers from Table Of Contents (TOC) before enter the next question.

    (50 Marks)

2. Using GIS techniques to create maps as Symbolizing and Labeling features.
    a. Assign graduated colors for population of year 1981 to District layer through symbology technique.
    b. Classification method is Natural breaks (Jenks) and assign classes are 7.
    c. Put the labels to district, Placement Properties of the labels horizontal first then straight.
    d. Ensure the labels' size 10 and color in *Malachite Green*.
    e. Export Map as JPEG file.

*save the map document as Q2.mxd file and remove the all layers from
Table Of Contents (TOC) before enter the next question.

(50 Marks

3. Creating maps through spatial query technique using DSD and Roads
   layers.
   a. Export data A6 and A1 roads as shapefile and save it as Road_A.
   b. Find and create a new data as shapefile which DS divisions consist
      the Road_A. Save the file as "dsd_new.shp".
   c. Zoom to extend of the newly created *dsd_new* layer and Export it as
      Q3.jpeg and save as Q3.mxd files.

(100 Marks

4. Create a hypothetical map using georeferencing and digitizing techniques
   (save the map document as Q4.mxd file)
   a. Add District.shp file and Colombo.jpeg raster file
   b. The known points are given below, Make georeference the
      Colombo.jpg file and rectify it.

Points	X	Y
1. Upper Left Corner	95000	195000
2. Lower Left corner	95000	185000
3. Upper Right corner	105000	195000
4. Lower Right corner	105000	185000

   c. Create data features and digitizing the following requirements
      within the circle limit on georeferenced data.
      i.   Main roads and railway track (feature name as Road.shp)
      ii. paddy land (feature name as Paddy.shp)
      iii. Schools (feature name as School.shp)

(100 Marks