EASTERN UNIVERSITY, SRI LANKA

FINAL YEAR FIRST SEMESTER EXAMINATION IN AGRICULTURE – 2012/2013

(March/April - 2015)

AE 4101 – METEOROLOGY AND GEO-INFORMATICS

Practical Examination

Answer all questions

Time: 2 hours

Note:

1. All required data for the practical examination is provided as soft copy in the computer.
2. The answers should be saved in the folder with index number in the desktop.

1 a. Create a Population map in Arc GIS 9.2 (in Layout view, A4 size) fulfilling the following requirements: (save the file as population .mxd)

    i.   Include the Population of year 2001

    ii.   Assign graduated symbols from the symbology

    iii.   Set North Arrow, Scale Bar, Title, Neat line and Legend

    iv.   Export it as jpg. file

  b. Create a Map using the following attributes:

    i.   A map with population graph comparing the population in 2001 and 2012 in the Western Province (save the file as western_pop .mxd)

    ii.   Add in one layout as graph and map and export as jpg. file with proper mapping features.

(100 marks)

2. Find the "Suitable land for paddy cultivation in Batticaloa and Ampara" by using GIS techniques such as export, merge, clip, buffer and overlay operations. Use the following criteria for the analysis.

(P.T.O)

i.   Multiple ring buffer for land should be at 1km, 2km and 3km away from Road (use dissolve none type)

ii.   Multiple ring buffer for land should be at 1km, 2km and 3km away from towns (use dissolve none type)

iii.   Create a composite map from 2 buffer layers using Intersect Overlay Analysis (save the file as Suitable land for paddy. mxd)

iv.   Create an attribute field of suitability distances by adding the above 2 buffer distances.

v.   Classify into 3 suitability classes such as (More suitable, Suitable, Not suitable) by using symbology technique (Graduated colours).

vi.   Export the map as "Suitable land for Paddy". jpg with proper mapping features.

(100 marks)

3. a. Create 2 maps comparing the male and female population density in 2010 (save the file as population_density.mxd). Export the maps as population_density.jpg in one layout (A3 size) with proper mapping features.

(60 marks)

b. Create a hypothetical land use map using digitizing technique by fulfilling the following requirements:

    i. Land use patterns

    ii. River network

    iii. Agricultural stations

(40 marks)

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