

UNIVERSITY OF RUHUNA
BACHELOR OF SCIENCE IN FISHERIES AND MARINE SCIENCES DEGREE
Level IV Semester I - July/August 2015
OCG4112- Earth Processes and Morphometric Analysis

Answer **Three (03)** questions **including Question no. 01.**

Time: 1 ½ hours

01. a). What is a Digital Elevation Model (DEM) ? (04 marks)
b). What are the sources for DEM ? (10 marks)
c). What is meant by vertical and horizontal resolution of a DEM ? (12 marks)
d). Why those resolutions are important for geomorphometrical analysis ? (14 marks)
02. Write short notes on any two (02) of the following
a). Geomorphometry
b). Landform Processes
c). Land Surface Parameters (15 x 2 = 30 marks)
03. Explain differences between any two (02) of the following with suitable examples or illustrations.
a). Slope calculation using “Steepest Slope” and “Lowest Height”
b). “Strahler network ordering” and “Shreve network ordering”
c). “Upscaling” and “Downscaling” of grid based DEM (15 x 2 = 30 marks)
04. Assume, you are working as a RS/GIS Analyst at a private company. You have new job to create a drainage network for the Kalu Ganga catchment area for Flood Modeling. You do not have time to access to the area and no any map available with you except the **10m high resolution gridded DEM.**

Write down all most important steps and procedures you would adopt to extract the drainage network of the area. (30 marks)