



EASTERN UNIVERSITY, SRILANKA
THIRD YEAR FIRST SEMESTER EXAMINATION IN AGRICULTURE 2005/2006
(July 2014)
AEN 3101 –HYDRAULICS AND HYDROLOGY
EXTERNAL DEGREE (Repeat Examination)

Answer all questions

Time: 02 Hours

01. (a) List the factors affecting run off.
(b) What are the limitations of using Arithmetic Average method in estimating run off?
(c) Give a brief note on the features that should be considered in selecting a site for installing rain gauges at a meteorological station.
02. (a) What is stream flow?
(b) Describe the procedure to measure the discharge of a stream channel using the current meter?
(c) Discuss about the factors affecting the velocity of water flowing in an open channel.
03. (a) Briefly describe three properties of a liquid.
(b) Define the following
(i) Fluid pressure
(ii) Pressure intensity
(iii) Pressure head
(c) A triangular plate is vertically immersed in water with its base above and it is parallel to the free surface of water. The base is 4m long and 5m below the water surface. The vertex of the plate is 8m from the water surface. Calculate the total pressure acting on the vertical surface.
04. (a) Define laminar flow and turbulent flow.
(b) An overhead water tank of a multistoried building maintains a head of 40m above the ground level of the building. A pipe diameter of 10 cm and 100 m long conveys water to the ground floor. Determine the velocity of water at the exit of the pipe. (Darcy's coefficient of friction = 0.06).