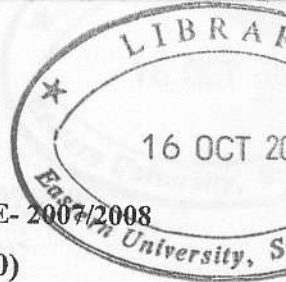


EASTERN UNIVERSITY, SRI LANKA

THIRD YEAR FIRST SEMESTER EXAMINATION IN AGRICULTURE- 2007/2008

AEN 3101 Agricultural Hydraulics and Hydrology (2:30/00)



Answer all questions

Time allowed: Two hours

1. a. What do you understand by the terms 'ground water recharge' and 'ground water discharge'?
- b. Give the importance of artificial recharge of ground water
- c. Describe the methods of artificial recharge.

2. a. What is hydrograph?
- b. Illustrate and define the components of a typical hydrograph
- c. Explain the base flow separation techniques in hydrograph

3. a. Draw a flow chart showing different types of runoff
- b. Describe the physical aspects of interception
- c. Describe the measurements of interception with reference to primary, secondary and grass land.

4. a. Define the following terminologies;
 - i. Pressure intensity
 - ii. Centre of pressure
- b. A sluice gate, which height is 2m and wide is 4m located below a retention wall, which height is 3.5m. The water retain with the top level of the wall on the upstream side. The water height on the down stream side is 3m from the bottom of the stream. Find out the resultant pressure and the point where it acts on the gate (Density of water = 1000 kg/m^3 , $g = 10 \text{ m/sec}^2$)