



EASTERN UNIVERSITY, SRI LANKA
SECOND YEAR SECOND SEMESTER EXAMINATION IN AGRICULTURE – 2003 / 2004
AEN 2201 AGRICULTURAL HYDRAULICS AND HYDROLOGY (2:30/00)

Answer all questions

Time allowed: 2 hours

01

- a. Define the term "Secondary Interception"
- b. Write brief account on physical aspects of "interception"
- c. Briefly describe the measurement of interception in grassland?

02

- a. What do you mean by zero infiltration?
- b) Draw a flow chart to show the different types of runoff.
- c) Briefly describe the factors affecting the following:
 - i. Rate of infiltration in soil
 - ii. Rate of runoff

03

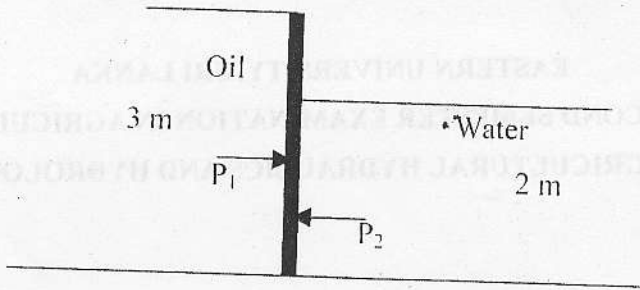
- a. List three watersheds located in your area.
- b. List three severe problems faced by these watersheds.
- c. Suggest remedies to overcome these problems.
- d. What are the traditional methods followed by farmers to manage these watersheds?

04

- a. Define the term "Centre of Pressure".
- b. A rectangular tank 8 m long, 4 m wide and 3m deep is divided into 2 compartments by a wall parallel to the shorter walls of the tank. (Details are illustrated)

Specific gravity of oil = 0.8

.....Cont/2:



- i. What is the pressure on the waterside?
- ii. What is the pressure on the oil side?
- iii. What is the resultant pressure acting on it?

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 1 m long and 5 m below the water surface. The vertex of the plate is 8 m from the surface of water. Calculate the following:

- i. Total pressure on the vertical surface
- ii. Position of center of pressure.

(For triangular plane, $I_{CG} = bd^3 / 36 \text{ m}^4$)
