



The Open University of Sri Lanka
Faculty of Engineering Technology

Final Examination- 2009/10

AEX4237 Irrigation and Drainage Engineering

Date : 02-03-2010
Time : 0930-1230 hours

SECTION II

- (1) (a) What is the importance of Irrigation and Drainage Engineering in Sri Lankan context?
(b) The Reddish Brown Earth in the dry zone of Sri Lanka holds 22% and 8% of water respectively at field capacity and permanent wilting point (by weight). If the dry bulk density of soil is 2.2g/cm^3 , determine the total water available for plants in this soil.
(b) If a Tomato crop grown in the soil, mentioned in section (b) above, with a root depth of 3m and consumptive use of 6mm/day, determine the irrigation interval and volume, assuming irrigation at 50% depletion of the total available water.
- (2) (a) "Rehabilitation of existing irrigation schemes is necessary to increase agricultural production in Sri Lanka" comment on this statement.
- (3) (a) Discuss the water control and measuring structures in canals.
(b) Explain the mechanism of Sprinkler Irrigation System.
(c) Briefly explain the advantages of the sprinkler irrigation system.
- (4) (a) Briefly explain the different types of canals found in dry zone of Sri Lanka.
(b) What is meant by the term "Canal Capacity"?
(c) What do you mean by "Canal Operation and Maintenance"?
- (5) Write a small essays on the followings
(a) "Rise and fall of ancient hydraulic civilisation in Sri Lanka"
(b) "Drainage problems and practices in Sri Lanka"
- (6) Write short notes on any three (03) of the following.
(a) Earth moving equipments.
(b) Effective rainfall
(c) Irrigation water management
(d) Inland salinity
(e) Net Irrigation Requirement.