



The Open University of Sri Lanka
Faculty of Engineering Technology

Industrial Studies (Agriculture) Programme

Final Examination- 2007/2008

AEI6132 Groundwater Resources Management



SECTION 2: Answer any four (04) questions. All questions carry equal marks.

1. (a) Write a brief note on three higher rating recharge estimating methods in terms of applicability, data requirement and reliability.
(b) Briefly discuss the soil moisture balance method for recharge estimation.
2. (a) Explain why large diameter wells are used in large scale in dry zone for agricultural purposes.
(b) Briefly discuss three major limitations for Agro well irrigation in Sri Lanka
3. (a) Briefly explain the four processes that create acidity in unsaturated zone of soil.
(b) Discuss the fluoride contamination in Sri Lanka with suitable examples and suggest the possible mitigation and adaptation measures.
4. Briefly explain the methodology for shallow groundwater resources management and discuss how it could be used in existing and new agro well systems in Sri Lanka, with possible recommendations.
5. (a) Briefly discuss the advantages and disadvantages of the drip irrigation method over the conventional irrigation methods.
(b) Describe the components and the basic steps involved in the drip irrigation system design in detail with suitable sketch.
6. Write short notes on any three (03) of the following
 - (a) Groundwater modelling
 - (b) Bioaccumulation
 - (c) Biomagnification
 - (d) Cumulative Rainfall Departure (CRD) method for recharge estimation