The Open University of Sri Lanka
Faculty of Engineering Technology
Department of Agricultural & Plantation Engineering

Study Programme	: Bachelor of Industrial Studies Honours
Name of the Examination	: Final Examination
Course Code and Title	**:AGI6232/AEI6132-GroundwaterResources Management**
Academic Year	: 2019/20
Date	:26th July 2020
Time	: 0930-1230hrs
Duration	: **3 hours**

Registration No : .....

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

1. "Groundwater policy is essential for sustainable use of resources" critically analyse this statement on Sri Lankan context.

2. (a) Briefly discuss the groundwater contamination in Jaffna Penninsula of Sri Lanka with suitable examples and its consequences on human health.
   (b) Suggest suitable adaptation measures to over come the problems you identified in section(a).

3. Briefly explain the geophysical methods in groundwater investigations used in Sri Lanka and discuss their advantages and disadvantages

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 components of sprinkler irrigation system and the advantages and disadvantages of the sprinkler irrigation method over the conventional irrigation methods.
   (b)(i) Determine the required capacity of a sprinkler system to apply water at the rate of 12.5mm/hr. Two 180 metres long sprinkler lines are required. Sixteen sprinklers are spaced at 12 metre intervals on each line. The spacing between lines is 18 metres.

(ii) Allowing 1 hour for moving each 180 metre sprinkler line described above, how many hours would be required to apply 50mm irrigation to a 16 hectare field?

6 Write short notes on any three (03) of the following

(a) Household water purification systems
(b) Salt water intrusion
(c) Aquifer Vulnerability
(d) Measurement of Evaporation of open water surface

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