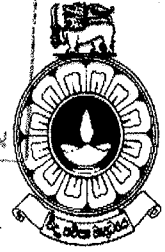


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The Open University of Sri Lanka  
Faculty of Engineering Technology  
Department of Agricultural & Plantation  
Engineering

|                         |                                                                                                                                        |
|-------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| Study Programme         | : Bachelor of Science Honors in Engineering<br>(Agricultural Engineering) &<br>Bachelor of Industrial Studies Honours<br>(Agriculture) |
| Name of the Examination | : Final Examination                                                                                                                    |
| Course Code and Title   | : AGX6490-Soil and Water Conservation                                                                                                  |
| Academic Year           | : 2024/2025                                                                                                                            |
| Date                    | : 09-02-2026                                                                                                                           |
| Time                    | : 0930-1230hrs                                                                                                                         |
| Duration                | : 3 hours                                                                                                                              |

#### INSTRUCTIONS

This question paper consists of two sections. **SECTION I** and **SECTION II**

##### SECTION 1

- There are FIFTEEN (15) Structured Essay Questions. You are required to **answer all questions**. Answers should be written in the space provided for each question. No additional paper is provided. You may spend about **one hour** to answer this section.

##### SECTION 2

- There are SIX (06) Essay Type Questions. You are required to answer **ONLY FOUR (04)** questions. You may spend about **two hours** to answer the questions in this section.

Read the questions carefully before answering.

It is **EXTREMELY IMPORTANT** that you should not remove the **SECTION I** of the question paper from the examination hall.

Please note that you should write your registration number in the space provided above. Do not write your name.

**SECTION 1: Answer all questions. Use the space given under each question.**

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1. Write **five (05)** effects of soil erosion?

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2. Name **four (04)** agents of erosion.

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3. Write **four (04)** triggers for gully development.

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4. Write a simple equation to estimate wind erosion losses and name the parameters.

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5. Define EI index.

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6. Write the equation for "SCS Curve Number" method to estimate the rate of runoff and name the parameters.

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7. Write **three (03)** main ways in which terraces control erosion.

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8. List **four (04)** main reasons for building earthen bunds.

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9. Name **three (03)** different types of strip cropping.

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10. What are Hydrophilic soil amendments.

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11. Name **three (03)** benefits of land resource planning.

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12. Name **five (05)** Land Management Institutes in Sri Lanka.

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13. List **five (05)** goals of National Water Policy.

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14. State **five (05)** methods to reduce evaporation from the soil surface.

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15. Write **three (03)** environmental benefits of conservation farming.

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The Open University of Sri Lanka  
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 Final Examination – 2024/2025  
**AGX6490- Soil and Water Conservation**

Date : 09-02-2026  
 Time : 0930-1230  
 Duration: Three (03) hours

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

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- (1) Briefly explain the measurement of rainfall energy.
- (2) (a) Briefly explain the soil erosion problems in Traditional Cultivation.  
 (b) Briefly explain the erosion control of Plantation Agriculture.
- (3) Briefly explain the Rooftop Rainwater harvesting system, its benefits and its components with suitable diagrams.
- (4) (a) What is the application of soil erosion surveys?  
 (b) Briefly explain the benefits of soil conservation.
- (5) (a) Write the Universal Soil Loss Equation and name the components.  
 (b) Calculate the soil loss for a field with the following data.  
 Rainfall erosivity index = 300  
 Soil erodibility factor = 0.5 t/ha/yr  
 Field slope = 0.6%  
 Length of slope = 200 m  
 Conservation practice factor = 0.5  
 Crop Management factor = 0.3  
 (c) State the importance of modifying the Universal Soil Loss Equation when it is applying for other countries.
- (6) Write short notes on any **three** (03) of the following.
  - (a) Flood Hazard in Sri Lanka
  - (b) Soil Conservation Policy in Sri Lanka
  - (c) Zero tillage
  - (d) Erodibility

**End of Paper**