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

Study Programme	: Bachelor of Industrial Studies(Agriculture)
Name of the Examination	: Final Examination
Course Code and Title	**: AGX4532Soil and Water Conservation**
Academic Year	: 2017/18 AEX4232
Date	: 18th February 2019
Time	: 0930-1230hrs
Duration	: **3 hours**

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

(1) (a) What is rain-splash erosion? Briefly discuss the factors affecting the direction and distance of soil splash.

(b) Briefly explain the term Erosivity and Erosivity Index (EI).

(c) Describe the Erosivity estimation methods.

(2) (a) List each component of the Universal Soil Loss Equation.

(b) Calculate the soil loss for a field with the following characteristics

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.

(3) (a) What is runoff co-efficient?

(b) In an area of 60 ha the rainfall intensity is 6.8 mm/hr. The runoff co-efficient is 0.45. Calculate the peak run off rate in SI units using the rational method.

(c) Explain three (03) characteristics which affect the runoff rate.

(4) (a) What are the mechanical soil conservation methods in Sri Lanka?

(b) Name the important agencies involved in implementing soil conservation practises in Sri Lanka.

(c) Write an account on soil water conservation policies in Sri Lanka and state the importance of having a national water policy.

(5) (a) What is a landslide?

(b) Write a brief note on triggers of landslides.

(c) State some examples for the important landslides which occurred in Sri Lanka.

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

(a) Erodibility

(b) Onsite effects of soil erosion

(c) Minimum tillage

(d) The Froude Number (Fr)