EASTERN UNIVERSITY, SRI LANKA

THIRD YEAR SECOND SEMESTER EXAMINATION IN AGRICULTURE – 2004/2005

AEN 3201 SOIL AND WATER CONSERVATION ENGINEERING AND METEOROLOGY (2:20/20)

Answer all questions
Time: Two hours

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1. a. Briefly discuss the mechanics of soil erosion.

   b. Write a brief account on the physical factors of rainfall in relation to soil erosion.

2. a. Distinguish between:

   i) Rill erosion and Gully erosion

   ii) Pedestal erosion and Pinnacle erosion

   b. Discuss briefly the factors influencing in the erodibility of soil.

3. a. Enumerate applications of 'Universal Soil Loss Equation'.

   b. In an area, the following information is available in terms of soil erosion,

Rainfall erosivity index	-	1200 tons/ha
Soil erodibility index	-	0.2
Field slope	-	6 %
Slope length	-	100 m

i) Estimate the annual soil loss in this area.

ii) If allowable soil loss is 10 tons/ha/year, calculate the crop management factor.
   Comment on your result.

iii) Explain how this situation could be improved by adopting conservation practices.

4. Write short notes on the following:

   a. Bench terraces

   b. Control of soil erosion by crop management