

M.Sc. Examination, 2016

Semester – I

Environmental Science

Paper – MEC-13

(Principles of Soil Science)

Time: 3 Hours

Full Marks: 40

Questions are of value as indicated in the margin.

Answer question No. 1 and any four from the rest

1. Differentiate **any four** of the following : 2×4=8
 - a) Bulk density and particle density.
 - b) Active acidity and potential acidity
 - c) 2:1 and 1:1 clay mineral
 - d) CEC and AEC
 - e) Alfisol and Entisol
 - f) Humic acid and fulvic acid
 2. Enlist the soil orders according to USDA? Describe any three orders briefly. 2+6=8
 3. What are primary minerals? Discuss their characteristic features. 1+7 =8
 4. What is soil texture? Enumerate the soil separates. Briefly discuss the soil texture and its environmental significance. 1+2+3+2=8
 5. What are the origin of positive and negative charges in soil? Compare the three major types of clay mineral. 3+5=8
 6. Discuss the nature and problems of saline and alkaline soil. How will you reclaim it? 5+3=8
 7.
 - a) Explain potassium cycle. Discuss on the forms & availability of Potassium in soil.
 - b) State some methods on the nitrate inhibition from fertilization. 2+4+2=8
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