



Mansoura University
Faculty of Agriculture
Soils Department
Soil and water prog.
Organic Matter Chemistry exam.

Date: 14/6/2012
Time: 2H
Code No: Sol 318
Third level: 2011/2012
Total degree : 60



Please answer the following questions:-

1. Mention the role of humic substances in soil and plant. (7)
2. What are the properties of the ideal extraction method. (7)
3. Compare in a table between chemical structure and properties of both humic acid (HA) and fulvic acid (FA) (7deg.)
4. What are the major functional groups in the humic materials? (7 deg.)
5. What are the features of the spectroscopic methods used in the characterizing humic substances? (7 deg.)
6. Explain using equations, the main idea for the method used in determining the total acidity, total hydroxyl groups and alcoholic groups. (11 deg.)
7. Identify the ratio of E_4/E_6 and explain the indication of this ratio on the properties of the isolated humic materials. (7 deg.)
8. What is the importance of IR spectroscopy for characterizing humic substances? (7 deg.)

With my best wishes.....

Prof. Dr. Ahmed A. Taha