**Advanced Soil Organic Matter Chemistry**

**Lecture 1:**

**- definition Soil Organic Matter SOM**

 **Soil Organic Matter can be define as fellow:**

**1- it is amaterial of high molelucalar weights for example , proteins and polysaccharides**

**2 - simple saccharides with low molelucalar weights as amino acides**

 **3- humic substances or nonhumic substances**

 **AS, figure below organic soil substances can be classified to**

 **Main kinds firstly , microorganisms (biota ) secondly , entirely or partially composed substances and non decomposed substances with transformed (humus) or non transformed products as fallen leaf.**

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**Functions of organic matter in soil**

 **Three main Functions of SOM :**

 **Firstly , SOM is a source of macro as N and P( as organic companents in nature ) but K ( it is salts in nature ).**

 **Secondly , SOM has role in microbiology activity in nature**

 **Thirdly , SOM affects in chemi- physical and biological**

 **Soil properties as moisture, aeration , CEC , then soil aggregates and downward water and roots elongation and plants .**

 **Forth , decomposed or non decomposed manure SOM can be as a source of demanded energy to microorgansims .**

 **Q: micro-organisms and soil biota at absent or present oxygen can decompose Humus by main groups processes to release simple compounds , explain these processes with an essential products , (answer with points) ?**

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