

## Examrace

# Clay Minerals and CEC: Clay Minerals Are Secondary Minerals

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## Clay Minerals Are Secondary Minerals

These are divided into four groups

1. type mineral

2. type mineral

- Expanding
- Non-expanding

3. type minerals

### Minerals

- Consists of 1 layer of silica tetrahedral + 1 alumina octahedral
- Example- kaolinite, anauxite, hallosite, dickite

### Expanding

- Two silica tetrahedral and one alumina octahedral
- Example- montmorillonite, vermicullite, saponite

### Non-Expanding

- No. of silica and alumina sheets is same as expanding but layer within it.
- Example- illite, hydrous mica
- Here, 15 % silicone in silica sheets is substituted by al

### Mineral

- It can be written as 2: 1: 1 that is si: ag: mg
- Example- chlorite
- It consists of layer of two silica tetrahedral and 1 alumina octahedral and 1 mg octahedral

### Humus

- An organic colloid consisting of various chains and loops of linked carbon atoms.
- Fulvic acid- it has low molecular weight. It is part of humus soluble in acid and alkali.

- Humic acid- it is fraction of humus which is soluble in alkali but not in acid. It has medium molecular weight.
- Humin- it is insoluble in both alkali and acid. It has high molecular weight.

## Ion Exchange

Reversible process by which cations and anions are exchanged between solid and liquid phases and between solid phases in close contact with each other.

## Power of Replacement

Cation exchange capacity (CEC) :

Number of exchangeable cations per unit weight of dry soil. Its unit is  $\text{Cmol (+) kg}^{-1}$  or milliequivalent of cations per 100gm ( $\text{me (+) /100g}$ ) . It is one of the most important chemical property of soil.

✍ Mayank

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