



Centurion
UNIVERSITY

M.S.SWAMINATHAN
SCHOOL OF
AGRICULTURE

ASAC 1101 (2-1-0)

FUNDAMENTALS OF SOIL SCIENCE

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PRACTICAL MANUAL



Shaping Lives... Empowering Communities...

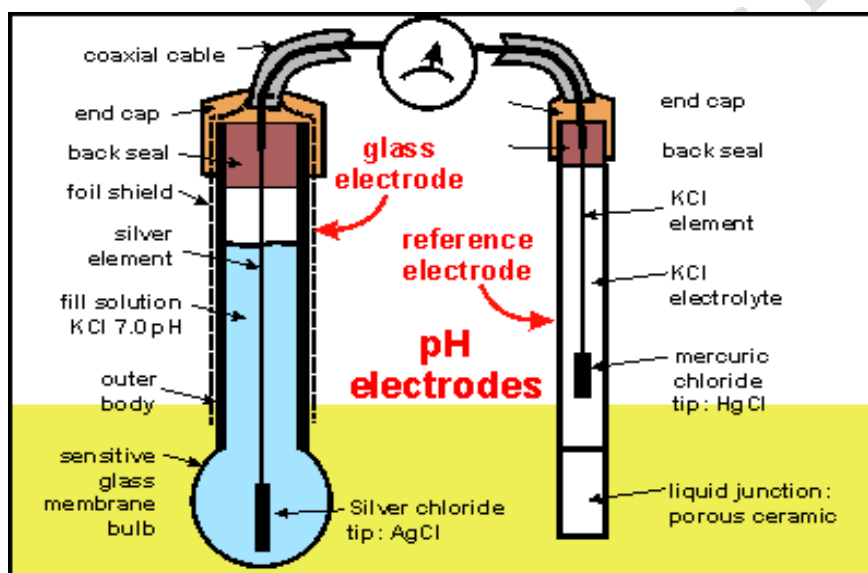
MSSSoA

EX No.8**DETERMINATION OF SOIL REACTION (pH)****Date:****Aim:** To determine the pH of a given soil sample.**Principle:**

When glass and calomel/reference electrodes are dipped into the soil solution, a potential difference is developed which is proportional to the H^+ concentration, which will be read in voltmeter.

Apparatus: Beaker, pH meter, glass rod, measuring cylinder, balance, wash bottle.

Reagents: pH buffer tablets of 4, 7 and 9.2



Glass electrode assembly

Procedure:**Step i: Operation of pH meter**

1. Switch on the instrument and wait for 15 minutes to warm up.
2. Adjust the temperature knob at room temperature.
3. Standardize/calibrate the instrument with known buffer solution using sensitive knob.

Step ii: Measuring pH of a sample

1. Weigh 10 g of soil and transfer into a 100 mL beaker.
2. Add 25 mL of distilled water and stir well with glass rod for 15 minutes (1:2.5 soil: water extract).
3. Dip the electrode in soil water suspension, wait for 15 seconds and note down the reading.

Rating of soil pH:

pH	Description
< 4.5	Strongly acidic
4.6-5.5	Moderately acidic
5.6-6.5	Slightly acidic
6.6-7.2	Neutral
7.2-8.2	Slightly alkaline
8.2-8.5	Moderately alkaline

Result:

The pH of given soil sample isand it is.....in nature.

ASAC 1101 (2+1) for record