

VISVESVARAYA TECHNOLOGICAL UNIVERSITY
JNANA SANGAMA, BELGAUM – 590018
KARNATAKA



PROJECT REPORT
ON
“AUTOMATED SOIL TESTING SYSTEM FOR AGRICULTURE”
(Sponsored by KSCST, IISc Bangalore)

SUBMITTED IN PARTIAL FULFILLMENT OF THE
REQUIREMENT FOR THE AWARD OF THE DEGREE,
BACHELOR OF ENGINEERING IN
ELECTRONICS & COMMUNICATION ENGINEERING

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SYNOPSIS

Automated soil testing system mainly aims at precisely measuring the soil N P K levels. N P K levels are also known as vital components of soil which are crucial for development of plant.

Soil is that part of the earth's crust in which the roots of plants grow. It is a vital, living component of the environment—a component that can be manipulated to affect crop performance

Soil contains vital nutrients and n p k contents which is necessary for successful growth of plants. Nitrogen helps plant foliage to grow strong where as Phosphorous helps roots and flowers grow and develop and Potassium (Potash) is important for overall plant health.

Another vital soil content is pH (potenzy hydrogen) and its importance could be quoted as follows:

“PH is a measure of how acidic or basic things are and is measured using a pH scale between 0 to 14, with acidic things having a pH between 0-7 and basic things having a pH from 7 to 14. For instance, lemon juice and battery acid are acidic and fall in the 0-7 range, whereas seawater and bleach are basic (also called "alkaline") and fall in the 7-14 pH range. Pure water is neutral, or 7 on the pH scale”.

Thus by using Horiba cardy sensor a automated soil testing system is developed which primarily focuses on measuring the vital N P K and pH contents of soil. The device developed is portable, cost effective and easy to use which adds up the merits of the developed device.