

DEPARTMENT OF CHEMISTRY				CLASS: II. B. Sc. Chemistry				
Sem	Course Type	Course Code	Course Title	Credits	Contact Hours/week	CIA	Ext	Total
IV	Add on course	20U4CAO2	Agricultural chemistry	2	2	50	50	100

Objectives:

The objective of the course is to know the importance of agricultural chemistry and an exposure to analyze and find a suitable method to cultivate and to promote agricultural methods.

Unit I - Chemistry of soil

(6 Hours)

Composition of soil - Organic and Inorganic constituents. - Chemical aspects of soil -acid, alkali and saline soil. Nitrogen fixation in soils - biological nitrogen fixation.

Unit II - Plant Nutrients and Fertilizers

(6Hours)

Plant nutrients - Sources and roles of macro and micro nutrients in plant growth –Nutritional deficiency in plants - symptoms, corrective measures - Fertilizers - classification of NPK fertilizers - natural and synthetic.

Unit III – Pesticides

(6 Hours)

Definition – Classification – organic and inorganic pesticides and its mechanism of action – Safe handling of pesticides, Fungicides - definition – classification – mechanism of action – sulfur, copper and mercury compounds.

Unit IV – Herbicides

(6 Hours)

Definition – classification – mechanism of action – Arsenic and boron compounds – urea compounds, nitro compounds and chloro compounds.

Unit V - Plant Growth Regulators

(6 Hours)

Definition - Classification - Structure and functions of – Abscisic acid - Auxins - Cytokinins - Ethylene - Gibberellins.

References:

1. Tisdale, S. L., Nelson, W. L. and Beaton, J. D. Soil Fertility and Fertilizers, Macmillian Publishing Company, New York, 1990
2. Hesse, P. R. A Textbook of Soil Chemical Analysis, John Murray, New York, 1971.
3. Buchel, K. H. Chemistry of Pesticides, John Wiley & Sons, New York, 1983
4. Sree Ramula, U. S. Chemistry of Insecticides and Fungicides, Oxford and IBH Publishing Co., New Delhi, 1979.

Name of the Course Designers

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