

CERTIFICATE COURSE 2021-22

Name of Course : SOIL SCIENCE

Code : MZCHESS21

Objective : To Provide an idea about soil science .

Outcome : Students could gather knowledge about various types of soil, suitable crops and the analysis of soil .

Eligibility : First and second year PG students of the college

Syllabus

Module-1 : Introduction to Soil Chemistry

Different types of soil, structure of soil, Chemical (elemental) composition of the earth's crust and soils. Chemistry of acid soils; active and potential acidity; lime potential, chemistry of acid soils; sub-soil acidity. Chemistry of salt-affected soils and amendments; soil pH

Module-11 : Quality of soil

Analysis of N, P and K values of different types of soil, testing of quality of soil and predicting the suitable crops, NPK value.

Module 111 : Soil conservation

.Biofertilizers – definition, classification, specifications, method of production and role in crop production. Biodegradation of pesticides, organic wastes and their use for production of manures. Biogas and manures; biotic factors in soil development; microbial toxins in the soil.

Module 1V : Fertilizers

Classification of fertilizers, direct and indirect fertilizers, complete and incomplete fertilizers, organic and inorganic fertilizers, nitrogenous fertilizers, phosphatic fertilizers, ammoniacal super phosphate. Mixed fertilizer.

References:

- 1) Greenland DJ & Hayes MHB. Chemistry of Soil Constituents. John Wiley & Sons.
- 2) McBride MB. 1994. Environmental Chemistry of Soils. Oxford Univ. Press.
- 3) Gurmali Singh, Venkataramanan C, Sastry G & Joshi BP. 1990. Manual of

Soil and Water Conservation Practices. Oxford & IBH.