Multidisplinary course

Offered by Department of Agriculture Technology

Course Title: Basics of Agriculture Technology

Objectives: The core objectives of this course is to equip students with a comprehensive understanding of crop production and sustainable management practices, along with the ability to apply scientific principles and innovative solutions in real-world agricultural settings.

Learning outcome: On successful completion of this course, the students will be able to develop critical understanding on various aspects of agronomy, nutrition, farming systems and organic farming practices.

Unit 1: Fundamentals of Agronomy

Agronomy and its scope, seeds and sowing, tillage and tilth, crop density and geometry, Intercultural operations, concept of yield and yield components, Crop nutrition, manures and fertilizers, nutrient use efficiency. Growth and development of crops, factors affecting growth and development, plant ideotypes, crop rotation and its principles, adaptation and distribution of crops.

Unit II: Farming System and Sustainable Agriculture

Farming System-scope, importance, and concept, Types and systems of farming system and factors affecting types of farming, Farming system components and their maintenance, Cropping system and pattern, multiple cropping system. Sustainable agriculture-problems and its impact on agriculture, indicators of sustainability, adaptation and mitigation, conservation agriculture strategies in agriculture, HEIA, LEIA and LEISA and its techniques for sustainability.

Unit III: Principles of Organic Farming

Organic farming, principles and its scope in India; Initiatives taken by Government (central/state), NGOs and other organizations for promotion of organic agriculture; Organic ecosystem and their concepts; Organic nutrient resources and its fortification; Choice of crops and varieties in organic farming.

Suggested Readings:

1) Principles of Agronomy by S. R. Reddy

2) Panda, S.C., 2006.Agronomy Agribios Publication, New Delhi

3) Cropping systems Theory and Practice -Chatterjee B.N. and Maiti S.

4) Organic Farming: Theory and Practices by Palanippan, S.P. and Anaadurai, K.

5) Handbook of Organic Farming.