

**Government Degree College Baramulla**

**SEMESTER 1<sup>st</sup> SKILL COURSE**

**ENVIRONMENTAL SCIENCE**

**W.e.f. Academic Session 2022**

**Title: Sustainable Agriculture-I (Eco-agri practices)**

**Course Code: BES22S102**

**Credit: 02 (T) +02(Practical)**

**Contact Hours: 48 (T)**

**Theory (2 Credits)**

**Course Objectives:** *The student shall be able to gain knowledge about the different types of agriculture practiced in various regions, the challenges faced by the present day agriculture and the approaches to be opted for achieving the goal of sustainability in agriculture.*

**Learning Outcomes:** *At the end of this course, the student shall be:*

1. *Equipped with the necessary knowledge of agricultural practices as well as hand on training pertaining to the fundamentals of sustainable practices in agriculture.*
2. *Able to implement various soil building components to enhance soil biology and plant performance.*
3. *Able to practice various agricultural practices*
4. *Capable of producing crops and plants in a sustainable environment*

**Part-I: Theory (2 Credits)**

**UNIT-I: Agriculture-Types and Practices**

1. Agriculture and its importance in Jammu and Kashmir
2. Agri-climatic zones of India: A brief introduction
3. Various forms of agriculture
4. Prevalent agri practices in India
5. Food security

**UNIT-II: Sustainable Agriculture: Challenges and Strategies**

1. Impact of agri practices on the environment
2. Food security and challenges
3. Sustainable agriculture: Concept and Importance
4. Challenges to sustainable agriculture
5. Strategies for sustainable agriculture

**Part 2: LABORATORY COURSE (2 CREDITS)**

1. Identification of crops and seeds
2. Herbarium of agri crops
3. Procedure for collection of soil samples from different agricultural fields
4. Preparation of soil health card by determining soil texture, soil pH and soil electrical conductivity.
5. Recommended fertilizer dose for different crops.

**Books Recommended**

1. Agronomy of Field Crops: Reddy , S R and Reddi Ramu. 2016 (5th edition). Kalyani Publishers, Ludhiana.
2. Principles of Agronomy: Yellamanda Reddy,T. and Sankara Reddy ,G.H. 2016; Kalyani Publishers, Ludhiana

3. Fundamentals of Agronomy: Gopala Chandra De.1989. Oxford & IBH Publishing Company Pvt Ltd , New Delhi
4. Indian Society of Soil Science.2012. Fundamentals of Soil Science. IARI, New Delhi
5. Manures and Fertilizers: Yawalkar K.S, Agarwal, T.P and Bokde, S. 1995; Agril. Publishing House, Nagpur
6. Soil Fertility and Fertilizers: An Introduction to Nutrient Management: Jim, B and John, H. 2006.Prentice Hall India Learning Private Limited.
7. Introductory Soil Science: D. K .Das. 2014. Kalyani Publishers, New Delhi
8. Soil Fertility and Fertilizers: An Introduction to Nutrient Management: Samuel Tisdale, Nelson Werner L, Beaton James D and Havlin John L. 2005. Macmillian Publishing Co., New York.