

**GOVERNMENT GENERAL DEGREE COLLEGE, MANGALKOTE**  
*DEPARTMENT OF BOTANY*

**ADD-ON COURSE:**  
**SUSTAINABLE AGRICULTURE**  
**(Academic Session 2018-2019)**



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Government General Degree College, Mangalkote  
Dt. Purba Bardhaman, West Bengal- 713132

# Course Design

## Course background

- Holistic development of the participating students.
- Development of scientific temper among students. .
- Understanding the practical applicability of the environment friendly agriculture in their vicinity.
- Correlating the situatedness of the institution with the curriculum.

## Requirements

- *Student-participants*: Internal. Compulsory for students of **B.Sc. Zoology (H)**.
- *Teachers*: Internal. Faculty members of Department of Botany, GGDC, Mangalkote. External faculty members, research scholars and scientists may be invited to conduct some classes depending on their willingness and availability.
- *Course Fee*: Nil.
- *Intake Capacity*: 25
- *Contact hours*: 30 hrs
- *Class/Lecture/Contact session duration*: 1 hr

## Objectives of the course

(a) To acquaint the student from agricultural as well as other disciplines with conventional and alternative agricultural production practices and their effect on long-term sustainability and environmental quality.

(b) To explain how agricultural scientists are attempting to minimize agricultural pollution and sustain food production adequate for the world's population.

The students will also learn to:

- Make best use of the resources available
- Minimize use of non-renewable resources
- Protect the health and safety of farm workers, local communities and society
- Protect and enhance the environment and natural resources
- Protect the economic viability of farming operations
- Produce sufficient high-quality and safe food
- Build on available technology, knowledge and skills in ways that suit local conditions and capacity.

## Career prospects

Students will develop skills in eco friendly management of soil and water system in agriculture, different sustainable cropping systems, pest management and organic farming. Development of research aptitude will help them in their future aspirations. In terms of employability skills they can find positions in agriculture based farms and industries.

## Correlation to situatedness of the institution

Since the institution is located in a rural belt of Purba Bardhaman rich in agricultural land, the course will largely benefit the participating students to appreciate their surroundings and learn the practical applicability of the resources in their proximity. It will also make them aware of the hidden potentialities of nature in their surroundings required for sustainable agriculture.

## Modern pedagogy

The course aims to foster heuristic and exploratory learning and is based on the principles of learning-by-doing. Continuous and comprehensive evaluation will help in reinforcement of the course objectives.

## Expected outcomes of the course

After completing the course, the students will have the knowledge and skills to do the following:

- The student will be able to explain the major aspects of agricultural practices and traditions through time.
- The student will be able to explain in general the relationships among culture, economics, politics, science, and agricultural development. A solid understanding of the cross-cultural interactions and exchange that linked the world's people and facilitated agricultural development is also expected.

## Syllabus contents

Course contents (Theory)	Class/Lectures
<b>Unit I: Introduction</b> <ul style="list-style-type: none"><li>• History of Agriculture</li><li>• Definition, goal and current concepts of Sustainable Agriculture</li><li>• Industrial Agriculture</li></ul>	<b>05</b>
<b>Unit II: Soil and water management</b> <ul style="list-style-type: none"><li>• Land degradation and conservation of natural resources</li><li>• Improvement of soil quality and fertility</li><li>• Irrigation problems</li><li>• Waste lands and their development</li></ul>	<b>08</b>
<b>Unit III: Sustainable cropping systems</b> <ul style="list-style-type: none"><li>• Crop rotation</li><li>• Intercropping</li><li>• Agroforestry</li><li>• Organic farming</li></ul>	<b>08</b>
<b>Unit IV: Ecologically based pest management</b> <ul style="list-style-type: none"><li>• Weeds</li><li>• Insect pests</li></ul>	<b>04</b>
<b>Unit V: Issues in Sustainable agriculture</b> <ul style="list-style-type: none"><li>• Deciding, managing and learning in sustainable agriculture</li><li>• Sustainability revisited</li></ul>	<b>05</b>
<b>Total no. of lectures</b>	<b>30*</b>

\* Duration of 01 class/lecture = 01 hour.

## Examination pattern:

1. Multiple Choice Questions – 20 marks
2. Viva voce – 10 marks

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**Full Marks: 30**

**Gradation pattern:**

<b>Percentage of marks obtained</b>	<b>Grade</b>
<b>90-100</b>	<b>Excellent - A</b>
<b>70-89</b>	<b>Good - B</b>
<b>50-69</b>	<b>Fair - C</b>
<b>40-49</b>	<b>Not Eligible for Certificate - D</b>

**CERTIFICATE WILL BE PROVIDED BY THE COLLEGE AFTER COMPLETION OF COURSE**



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## Department of Botany

# GOVERNMENT GENERAL DEGREE COLLEGE MANGALKOTE

(Affiliated to The University of Burdwan)

## Certificate of Completion

This certificate is awarded to Mr./Miss .....bearing Roll No.....of Semester.....of the session 2018-2019 of the Department of...Botany...,G.G.D.C.Mangalkote, for successfully completing Add-on Course entitled “INTRODUCTION TO NON-GOVERNMENTAL ORGANIZATIONS” during his/her.....Semester study.

The candidate has fulfilled all requirements and specifications set by the institute.

Grade: .....

Dr. Akash Kedia  
(Head, Department of Botany.)  
G.G.D.C.Mangalkote

Dr.Pradipta Kumar Basu  
(IQAC Coordinator)  
G.G.D.C. Mangalkote

Dr.Raj Kumar Singh  
(Officer In Charge)  
G.G.D.C. Mangalkote

Grade for the certificate, 90-100% 'A', 70-89% 'B', 50-69% 'C' and 40-49% 'D'

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Date of issue: .....