GUJARAT TECHNOLOGICAL UNIVERSITY

Program Name: Bachelor of Science
Level: Under Graduate
Branch Name: Honors/ Honors With Research (Biotechnology)
Course / Subject Code: BS04001081
Course / Subject Name: Natural Farming

W.e.f. Academic Year:	2025-26
Semester:	4
Category of the Course:	Value Added Courses

Prerequisite: Basic Knowledge of Agriculture and plants
Rationale: This course aims to provide a comprehensive overview of Natural Farming and its place within broader context of Conventional Farming systems integrating historical, theoretical and practical aspects.

Course Scheme:

Teaching Scheme			Total Credits	Assessment Pattern and Marks				Total Marks
				Theory		**Practical**		
L	**T**	**PR**	**C**	ESE (E)	PA(M)	ESE (V)	PA (I)	
1	0	2	2	0	50	50	0	100

Course Content:

Sr. No.	Course Content	No. of Hours
1	**Introduction to Natural Farming** Historical development of farming systems, Natural Farming vs Conventional and Organic Farming, Ecological foundations of Natural Farming, Importance of biodiversity and ecosystem in Natural Farming	**3**
2	**Principles and Practices of Natural Farming** Soil health and fertility management in Natural Farming. Preparation & Composition of Jiwaamrit, Beejamarit. Micronutrient analysis of Jiwaamrit. Role of Mulching and Moisture maintenance in the natural Farming.	**4**
3	**Mechanism of natural farming:** Role of Microorganism in Jivaamrit. Metabolite and macro & Micronutrient present in the natural Farming Inputs. Mechanism of Beejamarit. Certification of the natural farming product**.**	**4**
4	**Application of Natural Farming** Advantages of Jivamrit, Beejamarit and Ghanajivamrit, Benefits of Natural Farming over conventional chemical farming, Advantages of Natural Farming on human health and environment.	**4**

Reference Books:

1. Natural Farming: A Rising Concept by Subhash Chand, Javaid Ahmad Wani, Sumati Narayan, Raj Narayan, Amit Kumar. 2024. SSPH. Latest Edition
2. Niti Ayoge. Natural Farming Publication.
3. Kam Lagat Prakrutik Kheti. Acharya Devrat & Subhash Palekar. Pushpak Press Pvt. Ltd.2019.

Course Outcome:

After Completion of the Course, Student will able to:

S. No	Course Outcomes	RBT Level
1	Understand the core principles and history of Natural Farming.	AP, UN
2	Apply Natural Farming techniques, including NF, to promote soil health and biodiversity.	AP, UN
3	Analyze the economic and environmental benefits of transitioning from conventional farming to Natural Farming, with a focus on Natural Farming.	AP, UN

*RM: Remember, UN: Understand, AP: Apply, AN: Analyse, EL: Evaluate, CR: Create

List of Experiments:

1. Collection of the soil for chemical analysis
2. Preparation of Jivamrit from the ingredients.
3. Preparation of Beejamarit from the ingredients
4. Water Conservation Techniques in Natural Farming (Mulching)
5. Ph determination of Jivaamrit and its analysis during incubation period.
6. Study of important Bacteria from Jiwamrit.
7. Study of important Bacteria & fungi from the Natural farming land.

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