FIRST-YEAR OF BACHELOR OF VOCATIONAL SEC SUSTAINABLE AGRICULTURE REVISED SYLLABUS ACCORDING TO CBCS NEP2020

COURSE TITLE: AGRICULTURAL WATER MANAGEMENT
SEMESTER-II, W.E.F. 2024-2025

RECOMMENDED BY THE BOARD OF STUDIES IN BVOC (SA) AND APPROVED BY THE ACADEMIC COUNCIL

DevrukhShikshanPrasarakMandal's
Nya. TatyasahebAthalye Arts, Ved. S. R. Sapre Commerce, and Vid. DadasahebPitre Science College (Autonomous), Devrukh. Tal.Sangmeshwar, Dist. Ratnagiri-415804, Maharashtra, India

Academic Council Item No: _____

Name of the Implementing Institute	:	Nya. TatyasahebAthalye Arts, Ved. S. R. Sapre Commerce, and Vid. DadasahebPitre Science College (Autonomous), Devrukh. Tal.Sangmeshwar, Dist. Ratnagiri-415804,
Name of the Parent University	:	University of Mumbai
Name of the Programme	:	Bachelor of Vocation (Sustainable Agriculture)
Name of the Department	:	Science
Name of the Class	:	First Year
Semester	:	Second
No. of Credits	:	02
Titleof the Course	:	Agricultural Water Management
Course Code	:	SASE102
Name of the Vertical in adherence to NEP 2020	:	Skill enhancement course
Eligibility for Admission	:	Any 12th Pass and/Or Diploma in agriculture seeking Admission to Degree Programme in adherence to Rules and Regulations of the University of Mumbai and Government of Maharashtra
Passing Marks	:	40%
Mode of Assessment	:	Formative and Summative
Level	:	UG
Pattern of Marks Distribution for TE and CIA	:	60:40
Status	:	NEP-CBCS
To be implemented from Academic Year	:	2024-2025
Ordinances/Regulations(if any)		

Syllabus for First Year of Bachelor of Vocation in Sustainable Agriculture

(With effect from the academic year 2024-2025)

SEMESTER-II **Paper No.–**

Course Title: Agricultural Water Management **No. of Credits - 02**

Type of Vertical: Skill Enhancement Course **COURSE CODE: SASE102**

Learning Outcomes Based on BLOOM's Taxonomy:

After completing the course, the learner will be able to…		
Course Learning Outcome No.	Blooms Taxonomy	Course Learning Outcome
CLO-01	Remember	Remember the importance water management in agriculture.
CLO-02	Understand	Understand irrigation systems and technologies.
CLO-03	Apply	Apply modern methods of Water management as per crop requirement
CLO-04	Analyze	Analyze water quality and pollution and discuss strategies to reduce water pollution risk
CLO-05	Evaluate	Evaluate water resources and their availability and limitations.
CLO-06	Create	Create the ability to encourage students to think critically about water management challenges in agriculture and develop problem solving approaches .

Syllabus for First Year of Bachelor of Vocation in SA

(With effect from the academic year 2024-2025)

SEMESTER-II **Paper No.–**

Course Title: Agricultural water management **No. of Credits - 02**

Type of Vertical: Skill Enhancement Course **COURSE CODE: SASE102**

COURSE CONTENT			
Module No.	**Content**	**Credits**	**No. of Lectures**
1	Water management □ Introduction to Agricultural Water Management □ Importance of water in agriculture □ Water cycle and water availability □ Basic principles of agricultural water management □ Water Requirements of Crops □ Crop water requirements and evapotranspiration □ Factors affecting crop water needs □ Estimation methods for crop water requirements	01	30
2	□ Irrigation Systems and Techniques □ Types of irrigation systems (e.g., surface, sprinkler, drip) □ Water application methods and efficiency □ Selection and design considerations for irrigation systems □ . Irrigation Scheduling □ Principles and methods of irrigation scheduling □ Tools and techniques for determining when and how much to irrigate □ Factors affecting irrigation scheduling decisions	01	30
	Total	02	6

Required Previous Knowledge

No previous Knowledge is required.

Access to the Course

The course is available for all the students admitted for Bachelor of Vocation (SA) as a Major or a minor. The students seeking admission in other disciplines may select the course as a minor considering the terms and conditions laid down by the University of Mumbai, the Government of Maharashtra, and the college, from time to time.

Forms of Assessment

The assessment of the course will be of Formative and Summative type. At the beginning of the course diagnostic assessment will be carried out. The formative assessment will be used for the Continuous Internal Evaluation whereas the summative assessment will be conducted at the end of the term. The weightage for formative and summative assessment will be 50:50. The detailed pattern is as given below.

Term End Evaluation (30 Marks)
Question Paper Pattern
Time: 1.5 hours

Question No.	Unit/s	Question Pattern	Marks
Q.1	All	Fill in the Blanks	6
Q.4	All	Attempt any three question from the following five questions (Applied Questions)	24
	Total		**30**

Internal evaluation (20 Marks)

Sr. No.	Description	Marks
1	Mid Term Examination	10
2	Active Participation in teaching learning Process	5
3	Subject related activities as assigned by the teacher	5
	Total	**20**

Grading Scale

The grading scale used is O to F. Grade O is the highest passing grade on the grading scale, and grade F is a fail. The Board of Examinations of the college reserves the right to change the grading scale.

Reference Books :

1. "Irrigation: Principles and Practices" by Martin Burton

2. "Principles of Agricultural Irrigation: Irrigation Methods and Management" by U.S. Department of Agriculture

3. "Agricultural Water Management: Principles and Practice" by Haruo Tanji and George D. Hewitt

4. "Crop Evapotranspiration: Guidelines for Computing Crop Water Requirements" by Food and Agriculture Organization of the United Nations (FAO)

5. "Practical Design of Agricultural Systems: Models and Applications" by Martin Burton

6. "Irrigation Engineering" by R.N. Reddy

7. "Drip and Micro Irrigation Design and Management for Trees, Vines, and Row Crops" by Freddie R. Lamm and David Clay

8. "Water Resources Management in Agriculture" edited by Pedro Martinez-Santos and Francisco Javier Villanueva-Rey

9. "Irrigation Management Principles and Practices" by Martin Burton

10. "Agricultural Water Management: Sustainable Practices and Challenges" edited by Teodoro Miano and Jose C. Jimenez-Berni