

Certificate course on
BIOFERTILIZERS AND ORGANIC FARMING

Academic year 2021-22

Syllabus

Biofertilizers and Organic Farming (30h)

UNIT - I: (15h)

1. Manures and Biofertilizers: Types of fertilizers, manures. Manure composition. Manures for crop productivity.
2. Differences between fertilizers and biofertilizers: pH changes and water contamination.
3. Bacterial Biofertilizers: General account on the microbes used as biofertilizer.
4. Algal Biofertilizers: Associative effect of different microorganisms. *Azolla* and *Anabaena-azollae* association, nitrogen fixation, factors affecting growth, *Azolla* in rice cultivation.

UNIT - II: (15h)

5. Fungal Biofertilizers: Mycorrhizal association, types of mycorrhizal association, occurrence and distribution, phosphorus nutrition, growth and yield, colonization of VAM – isolation and inoculum production of VAM, and its influence on growth and yield of crop plants.
6. Organic Farming: Green manuring and organic fertilizers, Recycling of bio-degradable municipal, agricultural and industrial wastes, Biocompost making- types, method of vermicomposting, Panchakavya. Biological pest control (neem).

Suggested Readings

1. Dubey R.C. 2005. A Text book of Biotechnology. S.Chand & Co. New Delhi.
2. Kumaresan V. 2005. Biotechnology. Saras Publications. New Delhi.
3. John Jothi Prakash E. 2004. Outlines of Plant Biotechnology. Emkay Publication. New Delhi.
4. Sathe T.V. 2004. Vermiculture and Organic Farming. Daya Publishers. New Delhi.
5. Subha Rao N.S. 2000. Soil Microbiology, Oxford & IBH Publishers. New Delhi.
6. Vayas S.C, Vayas S. and Modi H.A. 1998. Bio-fertilizers and organic Farming Akta Prakashan. Nadiad.

Certificate Course on Bio-fertilizers and Organic Farming.

Osmania University
 2021-2022
 Class: B.Sc. Year: II Subject: Botany

SUBJECTWISE ATTENDANCE		MONTH												
		03	03	03	03	03	03	03	03	03	03	03	03	03
Roll No.	Name of the Student	DATE												
		04	05	07	08	09	10	11	14	15	16	17	18	19
		Sig of Lecturer												
		No. of Lectures												
		1	2	3	4	5	6	7	8	9	10	11	12	13
01	B. BHARATH CHANDRA	1	2	3	4	A	5	A	6	7	8	9	10	11
02	B. PRAVEEN	1	2	3	4	5	A	A	6	7	8	A	9	A
03	B. MALESH	1	2	A	3	A	4	5	6	A	7	8	9	A
04	CH. SHIVA KUMAR	A	A	1	2	3	4	A	5	6	A	7	8	9
05	D. PRATHEESH	1	2	3	4	5	6	7	8	9	10	A	11	
06	GO. BHUVANA CHANDRA	1	A	2	3	4	5	6	7	8	9	10	A	11
07	T. DEEPAK	1	2	3	4	5	6	7	8	9	10	11	12	13
08	K. AMBARAJU	1	2	A	3	4	5	6	7	8	9	10	11	A
09	K. BHANU	1	2	A	3	4	5	6	7	8	9	10	11	
10	K. ANIL	1	2	3	4	5	6	7	8	9	10	11	12	13
11	M. MAHIPAL	1	2	3	4	5	6	7	8	9	10	11	A	12
12	M. SAI KUMAR	1	2	3	4	5	6	7	8	9	10	11	A	12
13	M. RATESH	1	2	A	3	4	5	6	7	8	9	10	A	11
14	M. CHANDRA SHEKAR	A	2	3	4	5	6	7	8	9	10	11	12	
15	N. MADHU	1	2	3	4	5	6	7	8	9	10	A	11	
16	P. ANIL	1	2	A	3	4	5	6	7	8	9	A	10	11
17	R. SWAMY	1	2	3	4	5	6	7	8	9	A	10	11	
18	S. RAJU	1	2	3	4	5	6	7	8	9	10	11	12	13
19	T. PRASAD	1	2	3	4	5	6	7	8	9	10	11	12	13
20	T. VISHNUTEJA	1	2	3	4	5	6	7	8	9	10	11	12	13
21	T. SWAMY	A	2	3	4	5	6	7	8	9	A	10	11	
22	DUBBASI ANIL KUMAR	1	2	3	4	5	6	7	8	9	10	A	11	12
23	A. SAI KUMAR	1	2	3	4	A	5	6	7	8	9	10	A	11
24	A. ARUN KUMAR	1	2	3	4	5	6	7	8	9	10	11	A	
25	CH. BHASKAR	A	2	A	3	4	5	A	6	7	8	9	10	A
26	I. SAI KIRAN	1	2	3	4	A	5	6	7	8	9	10	11	12
27	K. MADHU	1	2	A	3	4	5	6	7	8	9	10	A	11
28	M. MAHENDAR	1	2	3	4	5	6	A	7	8	9	10	11	A
29	M. SURESH	1	2	3	4	5	6	A	7	8	9	10	A	
30	IN. BAGHAVENDRA	1	2	3	4	5	6	7	8	A	9	10	11	A

		Osmania University												
		1	2	3	3	3	3	4	4	4	4	4	4	4
		19	21	22	26	29	30	1	2	7	8	9	11	12
		Sig of Lecturer												
		No. of Lectures												
		14	15	16	17	18	19	20	21	22	23	24	25	26
12	13	A	14	15	16	17	A	18	19	20	11	A		
9	10	11	12	13	A	14	15	A	16	17	K	A		
10	A	11	A	12	13	A	14	15	16	A	17	18		
10	11	12	13	14	A	15	16	17	18	A	19	20		
12	A	13	A	14	15	16	17	18	19	20	21	A		
13	14	15	16	A	17	18	19	A	20	21	A	22		
12	13	A	14	15	16	A	17	18	19	20	A	21		
14	A	15	16	17	18	19	A	20	21	22	23			
12	13	14	15	A	16	17	18	A	19	A	20	11		
12	13	14	15	16	A	17	A	18	19	20	A	21		
4	14	15	16	17	18	19	20	11	A	22	23	A		
13	14	15	16	17	A	18	19	A	20	A	21	22		
12	A	13	14	15	16	17	18	A	19	20	11	22		
13	14	15	16	17	18	19	20	11	22	23	24	15		
12	13	14	15	16	17	18	19	20	11	22	23	24		
12	13	14	15	16	17	18	19	20	A	11	22	23		
A	11	12	13	14	15	16	17	18	19	A	20	11		
A	12	13	14	15	16	17	18	19	20	11	A	22		
13	14	15	16	17	18	19	20	11	22	23	24	15		
13	14	15	16	17	18	19	20	11	22	23	24	15		
11	12	13	A	14	15	16	17	18	19	20	11	22		
13	A	14	15	A	16	17	18	19	20	11	22	23		
12	13	14	15	16	17	18	19	20	11	22	23	24		
12	13	14	15	16	17	18	19	20	11	22	23	24		
11	12	13	14	15	16	17	18	19	20	11	22	23		
13	14	A	15	16	17	18	19	20	11	22	23	24		
A	12	13	14	15	16	17	18	19	20	11	22	23		
12	13	14	A	15	16	17	18	19	20	11	22	23		
11	12	13	14	15	16	17	18	19	20	11	22	23		
12	13	A	14	15	16	17	18	19	20	11	22	23		



GOVERNMENT DEGREE COLLEGE

GAJWEL, SIDDIKET DISTRICT

AFFILIATED TO OSMANIA UNIVERSITY

RE-ACCREDITED WITH 'B+' GRADE BY NAAC



Certificate

This is to certify that Merugu Chandrashekh bearing roll number 601920445023
of BZC-II yr group has successfully completed a certificate course on Biofertilizers Organic
Farming of 30 days/hours duration held from 04-MAR-2022 to 16-APR-2022
conducted by the department of Botany.

Meekily
Convener

[Signature]
Principal



GOVERNMENT DEGREE COLLEGE

GAJWEL, SIDDIPET DISTRICT
AFFILIATED TO OSMANIA UNIVERSITY
RE-ACCREDITED WITH 'B+' GRADE BY NAAC



Certificate

This is to certify that Rayagiri Swamy bearing roll number 601920445032
of BZC - II yr group has successfully completed a certificate course on Bio fertilizers
Organic farming of 30 days/hours duration held from 04-MAR-2022 to 16-APR-2022
conducted by the department of Botany.

M. S. S. S.
Convener

M. S. S. S.
Principal

18-01-2022
Gajwel.

To,
The Principal,
GIDC (M),
Gajwel.

Sub: Academic year 2021-2022, Certificate
Course - Biofertilizers and organic
farming - permission - req. - req. -

Sir,
We would like to start a Certificate
Course on Biofertilizers & Organic
farming for B.Sc (B.Sc), Students of
I, II - Year. Kindly permit to conduct
Certificate Course on Biofertilizers & organic
farming.

Permitted
18.01.2022

Thanking you,

Yours faithfully
V.R. Reddy
G. Vijaya Bharathi Reddy
Asst. Prof of Botany
GIDC (M), Gajwel