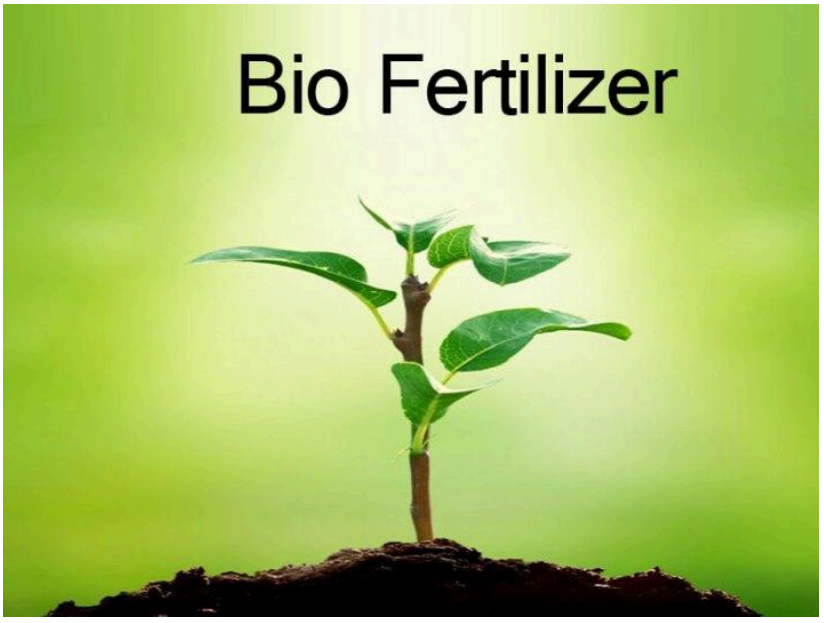
Govt. College for Women
(AUTONOMOUS) - GUNTUR. 1942 (Estd.)
College with Potential for Excellence

DEPARTMENT OF MICROBIOLOGY



A Certificate course in Bio fertilizers and Organic Farming.

From 01-05-2023 to 19-05-2023

GOVERNMENT COLLEGE FOR WOMEN (A), GUNTUR

DEPARTMENT OF MICROBIOLOGY

CIRCULAR

All the II Semester students are informed that the department of Microbiology is conducting a certificate course **on BIO FERTILIZERS AND ORGANIC FARMING** scheduled from 01-05-2023 to 19-05-2023. This course is useful for your career prospects.

Course details:

1. Course Fee – Free
2. Duration – 30 hrs.
3. No.of seats – 30
4. Course Timings – 4 PM to 6 PM
5. Maximum credits for the course – 2

The interested students may consult in the department of Microbiology for further details and registration process.

V.R. Jhansi

PRINCIPAL
GOVT. COLLEGE FOR WOMEN (A)
GUNTUR.

I/c Dept of Microbiology,

Govt. College for Women
(AUTONOMOUS) - GUNTUR. 1942 (Estd.)
College with Potential for Excellence

DEPARTMENT OF MICROBIOLOGY

A CERTIFICATE COURSE IN BIOFERTILIZERS AND ORGANIC FARMING

About the certificate course: The course focuses on providing vocational training for farmers and empowering them with the right knowledge to make their own bio-fertilizers.

OUTCOMES OF CERTIFICATE COURSE: At the end of the course the student will

- Understand and able to define biofertilisers.
- Understand what type of Microbes constitute Biofertilizers.
- Be able to isolate and purify candidate microbes and understand how to test them for their potential

The course is designed and developed by the course coordinator and the following faculty taught the course

Dr. N. Praveena kumara

Dr. K.Sucharitha

Smt.P.Aruna

Course Details:

- Number of Participants: 30
- Duration of the course: 30 hours

Criteria of Assessment

- Summative: At the end of the course.

Number of Credits: 2

Eligibility Criteria to get the certificate

- 75 % attendance
- Attending both Formative and Summative Assessment.
- Securing minimum of 40% marks.

Timings: 4 PM TO 6 PM

Venue: Microbiology Lab, Government Women's college, Guntur.

Course starting date: 01-05-2023

Course ending date: 19-05-2023

The course is conducted in both offline and online.

BIO FERTILIZERS AND ORGANIC FARMING
(Certificate course- 30 hrs)
SYLLABUS

Objectives:

- To inculcate concepts of biofertilizers.
- To create awareness about ecofriendly nature of biofertilizers
- To understand techniques in production of biofertilizers.
- To increase employability of the students.
- To improve the soil quality by promoting the biofertilizers.

UNIT I: Advantages of biofertlizers over chemical fertilizers:
Rhizobium – isolation, identification, mass multiplication, and carrier based inoculants, Actinorrhizal symbiosis. Azospirillum: isolation and mass multiplication – carrier based inoculant, associative effect of different microorganisms.

UNIT II: Azotobacter: classification, characteristics – crop response to Azotobacter inoculum, maintenance and mass multiplication. Cyanobacteria (blue green algae), Azolla and Anabaena azollae association, nitrogen fixation, factors affecting growth, blue green algae and Azolla in rice cultivation.

UNIT III: Mycorrhizal association, types of mycorrhizal association, VAM – isolation and inoculum production of VAM, and its influence on growth and yield of crop plants.
Organic farming – Green manuring and organic fertilizers, Recycling of biodegradable municipal, agricultural and Industrial wastes – bio compost making methods, types and method of vermin composting – field Application.

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.
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

Resolution - 10

The faculty members of Microbiology department met on 26/04/23 at 4:00 pm to discuss about the conduction of certificate course.

- It was resolved to schedule the certificate course in the month of may in both online and offline mode.
- It was also resolved to conduct this course for only 30 students and for about 15 days.

Government College For Women (A), Guntur

Department Of Microbiology

Certificate Course On Biofertilizers And Organic Farming

STUDENTS ENROLLMENT LIST

S.No	Name of the student	Course
1.	A.Aswitha	I FtMBC
2.	B.Sowmya	I FtMBC
3.	B.Harika	I FtMBC
4.	Ch.Mounika	I FtMBC
5.	G.Supriya	I FtMBC
6.	B.Prameela kumara	I FtMBC
7.	G.Likitha valmiki	I FtMBC
8.	K.Divya	I FtMBC
9.	K.Bala bhargavi	I FtMBC
10.	K.Bujji	I FtMBC
11.	K.Keerthi	I FtMBC
12.	K.Sravani	I FtMBC
13.	N.Kavya	I FtMBC
14.	S.Ashoka rani	I FtMBC
15.	S.Janaki	I FtMBC
16.	U.Sriya devi	MBC
17.	Ch.Hima bindhu	MBC
18.	J.Pavani	MBC
19.	K.Anusha	MBC
20.	S.Akhila	MBC
21.	V.V.Akhila	MBC
22.	A.Shanthi kumara	MBC
23.	D.Nandhini	MBC
24.	D.Parvin	MZC
25.	G.Harika	MZC
26.	K.Nageswari	MZC
27.	K.Sukanya	MZC
28.	P.Deepthi	MZC
29.	P.Madhu lekha	MZC
30.	SK.Naziya	MZC

Government College For Women (A), Guntur

Department Of Microbiology

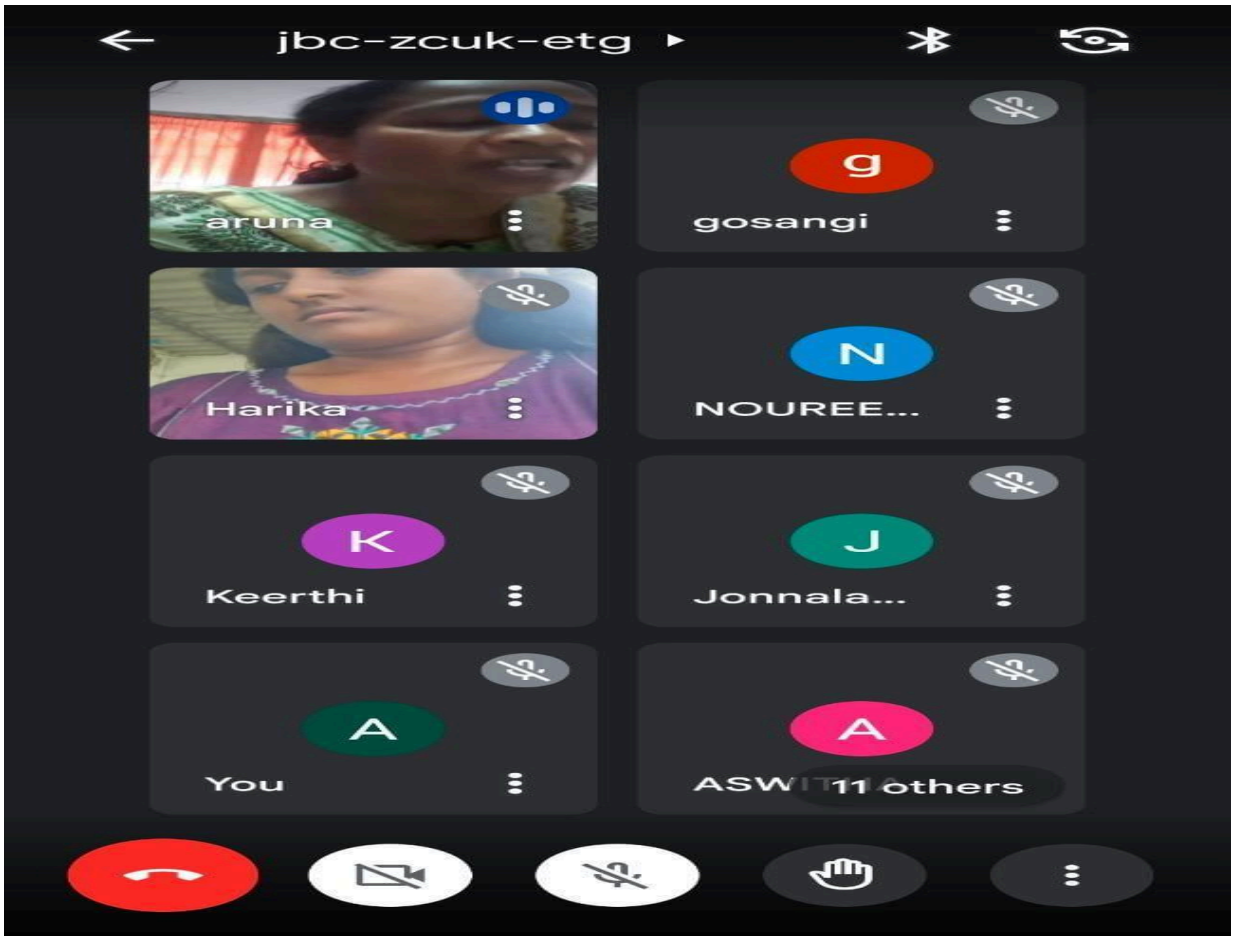
Certificate Course On Biofertilizers And Organic Farming

AWARD LIST

S.No	Name of the student	Course	Marks(50)	Attendance 16 days
1.	A.Aswitha	I FtMBC	46	14
2.	B.Sowmya	I FtMBC	44	14
3.	B.Harika	I FtMBC	40	15
4.	Ch.Mounika	I FtMBC	40	14
5.	G.Supriya	I FtMBC	38	15
6.	B.Prameela kumara	I FtMBC	38	14
7.	G.Likitha valmiki	I FtMBC	38	13
8.	K.Divya	I FtMBC	36	15
9.	K.Bala bhargavi	I FtMBC	40	13
10.	K.Bujji	I FtMBC	40	14
11.	K.Keerthi	I FtMBC	40	14
12.	K.Sravani	I FtMBC	38	13
13.	N.Kavya	I FtMBC	42	15
14.	S.Ashoka rani	I FtMBC	44	14
15.	S.Janaki	I FtMBC	40	14
16.	U.Sriya devi	MBC	40	14
17.	Ch.Hima bindhu	MBC	40	14
18.	J.Pavani	MBC	38	14
19.	K.Anusha	MBC	36	14
20.	S.Akhila	MBC	38	15
21.	V.V.Akhila	MBC	42	14
22.	A.Shanthi kumari	MBC	36	14
23.	D.Nandhini	MBC	38	15
24.	D.Parvin	MZC	38	14
25.	G.Harika	MZC	42	14
26.	K.Nageswari	MZC	40	13
27.	K.Sukanya	MZC	40	14
28.	P.Deepthi	MZC	46	15
29.	P.Madhu lekha	MZC	40	13
30.	SK.Naziya	MZC	40	14


Dept of Microbiology
Inauguration of
Certificate Course in
"Biofertilizers and Organic farming"
01.05.2023


Dept of Microbiology
Inauguration of
Certificate Course in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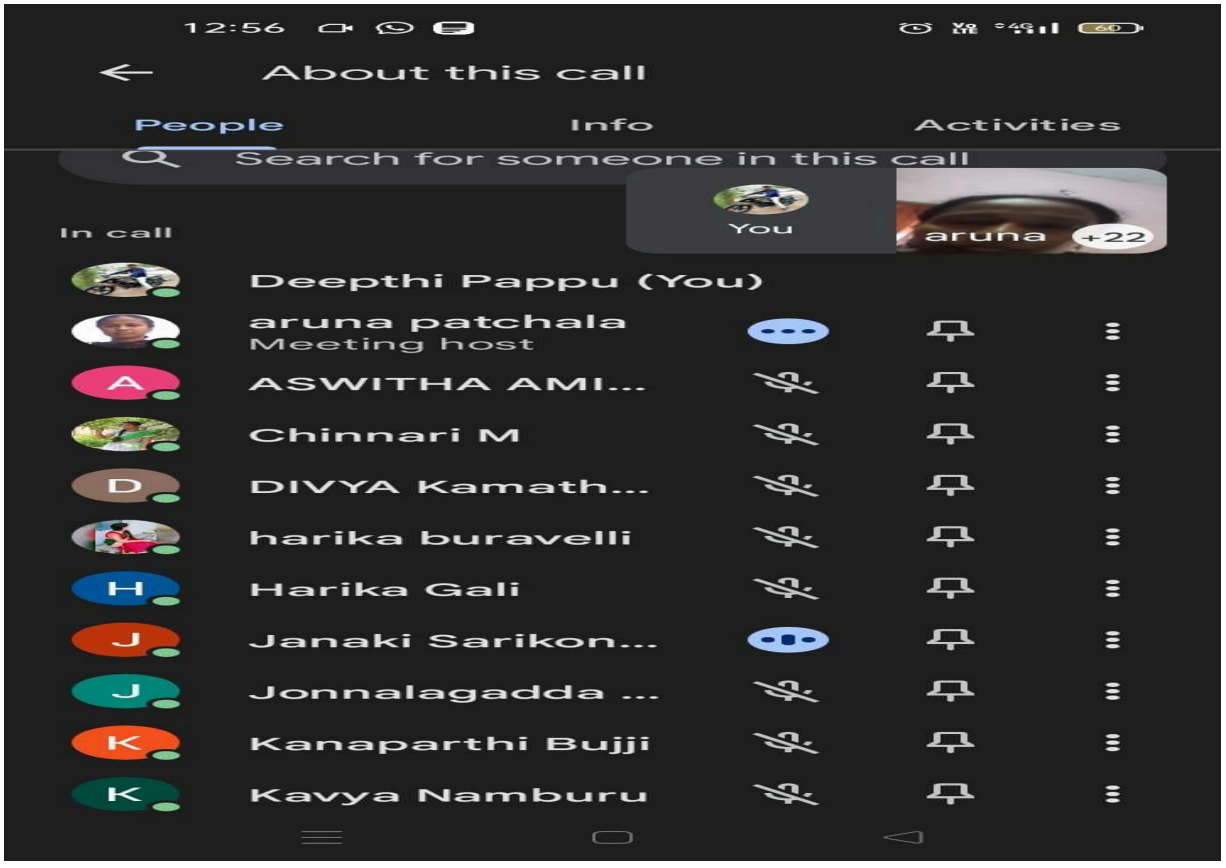
11 others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About this call
People
Info
Activities
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In call
Deepthi Pappu (You)
aruna patchala
Meeting host
ASWITHA AMI...
Chinnari M
DIVYA Kamath...
harika buravelli
Harika Gali
Janaki Sarikon...
Jonnalagadda ...
Kanaparthi Bujji
Kavya Namburu

Govt College for Women (Autonomous)
Guntur, Andhra Pradesh

DEPARTMENT OF MICROBIOLOGY

CERTIFICATE COURSE

This is to certify that Ms. U. Sriya Devi of I BSc Microbiology Botany Chemistry has successfully completed a certificate course in *Biofertilisers and Organic farming* conducted by Department of Microbiology from 01.05.2023 to 19.05.2023 and fulfilled all the prerequisites as per the UGC norms, for the award of credits.

Course Co-ordinator | In-Charge of the Department | Principal, RJD(FAC)

Govt College for Women (Autonomous)
Guntur, Andhra Pradesh

DEPARTMENT OF MICROBIOLOGY

CERTIFICATE COURSE

This is to certify that Ms. A. Aswitha of I BSc Microbiology Biochemistry Food Technology has successfully completed a certificate course in *Biofertilisers and Organic farming* conducted by Department of Microbiology from 01.05.2023 to 19.05.2023 and fulfilled all the prerequisites as per the UGC norms, for the award of credits.

Course Co-ordinator | In-Charge of the Department | Principal, RJD(FAC)

Certificate course-2022-23
Examination on Biofertilisers and Organic farming

1. Organic farming does not include_____
(a) green manures (b) chemical fertilisers
(c) farmyard manures (d) compost ( )

2. Which of the following fern is a biofertilizer?
(a) ***Salvinia*** (b) ***Azolla***
(c) ***Pteridium*** (d) ***Marsilea*** ( )

3. The symbiotic association between fungi and roots of higher plants is referred to as_____
(a) lichen (b) mycorhiza © Biofertiliser (D) Biocontrol agent ( )

4. In paddy fields, cyanobacteria serve as an important bio-fertiliser.
a) True b) False ( )

5.The compounds that enhance the level of nodulation are
a) Flavonoids b) Phenols c) carbohydrates d) Amino acids ( )

6.which of the following helps in boosting immune system and controlling cholesterol levels
a)Rhizobium b) Frankia c)Cyanobacteria d) none ( )

7) A dark brown water soluble pigment called melanin is produced by
a) rhizobium stolonifer b) Azotobacter chroococcum
c) azospirillum melanis d) Actinomycetes species ( )

8). Which of the following bacteria cannot fix atmospheric nitrogen?
a) *Nostoc* b) *Anabaena*
c) *Oscillatoria* d) *Lactobacillus* ( )

9). Which of the following is not used as a bio-fertiliser?
a) Bacteria b) Algae c) Cyanobacteria d) Fungi ( )

10) which medium is recommended for the isolation of Phosphate solubilising microorganisms
a) Yeast extract mannitol agar medium b) Pikovskaya's agar medium
c) Nutrient Agar medium d) Simmons Citrate Agar medium ( )

11) Fungal roots were first discovered by
a) A.B.Frank b) Martinus Beijerinck c) Louis Pasteur d) Alexander Flemming ( )

12) What is the full form of VAM?
a) Vesicular-arbuscular mycorrhiza b) Venom Azolla mycorrhiza
c) Venom-arbuscular mycorrhiza d) Vesicular-azollae mycorrhiza ( )

13) Which of the following is not used as a bio-fertiliser?
a) Bacteria b) Algae c) Cyanobacteria d) Fungi ( )

14) The ectomycorrhiza forms an intercellular network in root cortex is called as
a) VAM b) Hartig net c) Pseudohyphae d) blooms ( )

15) The major advantage of plant with VAM association is
a) Increased K absorption b) Increased N2 absorption

c) Increased Mn absorption d) increased P absorption ( )

16) Preferable medium for the mass production of azotobacter is
a) Ashby's agar medium b) Czapecks dox agar medium
c) Sabourads agar medium d) Yeast extract mannitol agar medium ( )

17) Which one of the following is not a nitrogen-fixing organism ?
(a) Anabaena (b) Nostoc (c) Azotobacter (d) Pseudomonas ( )

18) Which of the following is a nitrogen fixer in the root nodules of *Alnus*?
(a) *Clostridium* (b) *Bradyrhizobium* (c) *Azorhizobium* (d) *Frankia* ( )

19) Azolla as biofertiliser increases the yield of rice fields by
a) 10% b) 20% c) 30% d) 50% ( )

20) Presence of which of the following element is required for nitrogen fixation
a) Phosphorus b) oxygen c) Silver d) Carbon ( )

21) Azotobacter is an aerobic nitrogen fixing bacterium
a) True b) False ( )

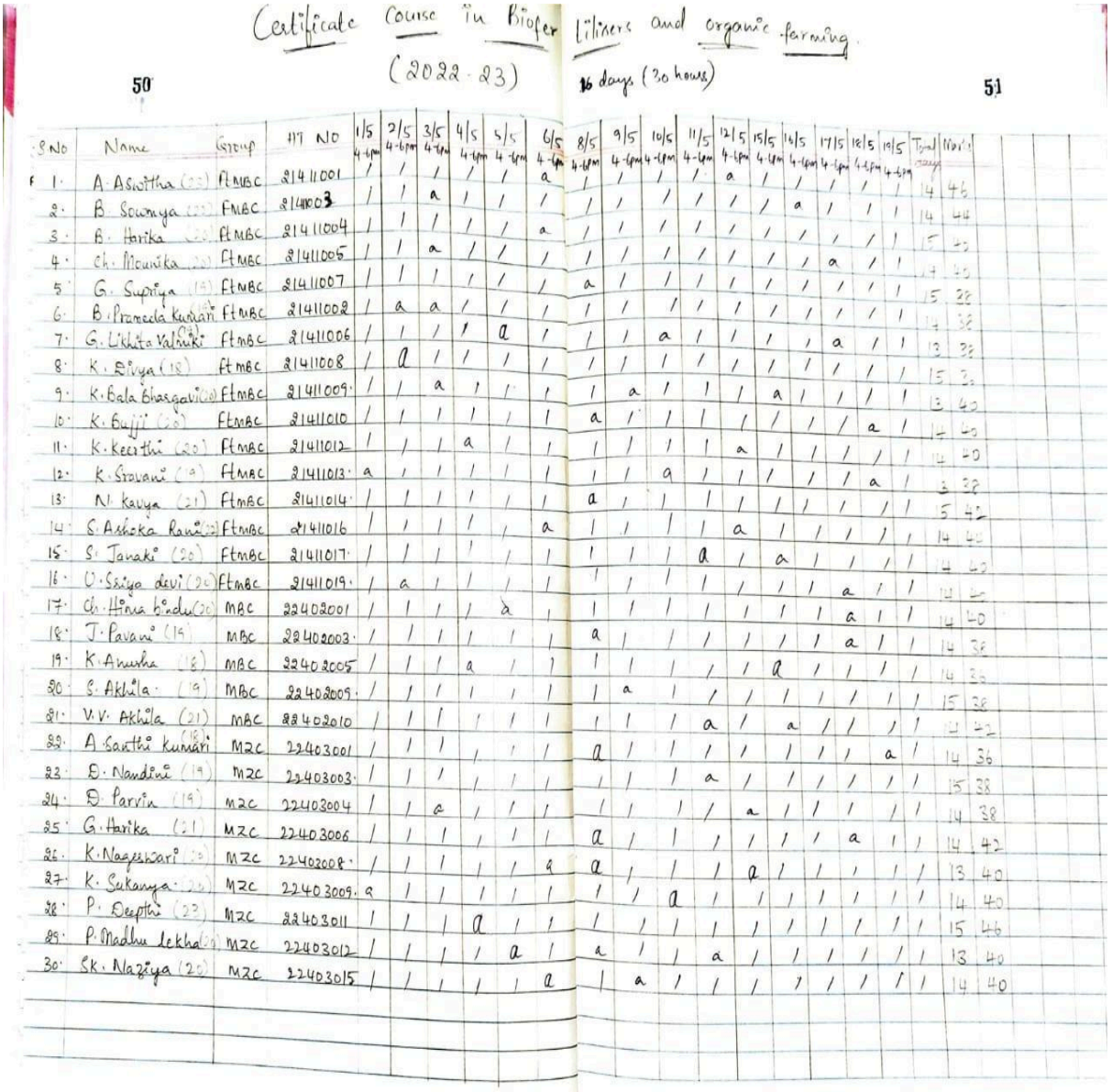
22)Crop rotation is carried out for
(a) Increasing acidity of soil (b) Decreasing fertility of soil
(c) Increasing fertility of soil (d) None ( )

23)Some blue green algae can be used as biofertilizer as they are
(a) Photosynthetic (b) Surrounded by mucilage
(c) Growing every where (d) Capable of fixing nitrogen ( )

24) **Which of the following is a pair of biofertilizers?**
(a) *Salmonella* and *E.coli* (b) *Rhizobium* and grasses
(c) *Nostoc* and legume (d) *Azolla* and BGA ( )

25)choose the correct statement
(a) legumes do not fix nitrogen (b) legumes fix nitrogen independent of bacteria
(c) legumes fix nitrogen through bacteria in their roots
(d) legumes fix nitrogen through bacteria in their leaves ( )

ATTENDENCE



Certificate Course in Biofertilizers and organic farming (2022-23)

16 days (30 hours)

50

51

S.No	Name	Group	H.T NO	1/5 4-6pm	2/5 4-6pm	3/5 4-6pm	4/5 4-6pm	5/5 4-6pm	6/5 4-6pm	8/5 4-6pm	9/5 4-6pm	10/5 4-6pm	11/5 4-6pm	12/5 4-6pm	15/5 4-6pm	16/5 4-6pm	17/5 4-6pm	18/5 4-6pm	19/5 4-6pm	Total days	Hours
1.	A. Aswitha (23)	FtMBC	21411001	/	/	/	/	/	a	/	/	/	/	a	/	/	/	/	/	14	46
2.	B. Soumya (22)	FMBC	21411003	/	/	a	/	/	/	/	/	/	/	/	/	a	/	/	/	14	44
3.	B. Harika (20)	FtMBC	21411004	/	/	/	/	/	a	/	/	/	/	/	/	/	/	/	/	15	48
4.	Ch. Nirmika (20)	FtMBC	21411005	/	/	a	/	/	/	/	/	/	/	/	/	/	a	/	/	14	44
5.	G. Supriya (19)	FtMBC	21411007	/	/	/	/	/	/	a	/	/	/	/	/	/	/	/	/	15	48
6.	B. Pramoda Kumari (19)	FtMBC	21411002	/	a	a	/	/	/	/	/	/	/	/	/	/	/	/	/	14	38
7.	G. Likhita Vaishnavi (19)	FtMBC	21411006	/	/	/	/	a	/	/	/	a	/	/	/	/	a	/	/	13	38
8.	K. Divya (18)	FtMBC	21411008	/	a	/	/	/	/	/	/	/	/	/	/	/	/	/	/	15	38
9.	K. Bala Bhargavi (20)	FtMBC	21411009	/	/	a	/	/	/	/	a	/	/	/	a	/	/	/	/	13	40
10.	K. Bujji (20)	FtMBC	21411010	/	/	/	/	/	/	a	/	/	/	/	/	/	/	a	/	14	40
11.	K. Keerthi (20)	FtMBC	21411012	/	/	/	a	/	/	/	/	/	/	a	/	/	/	/	/	14	40
12.	K. Sravani (19)	FtMBC	21411013	a	/	/	/	/	/	/	/	a	/	/	/	/	/	a	/	13	38
13.	N. Kavya (21)	FtMBC	21411014	/	/	/	/	/	/	a	/	/	/	/	/	/	/	/	/	15	42
14.	S. Ashoka Rani (22)	FtMBC	21411016	/	/	/	/	/	a	/	/	/	/	a	/	/	/	/	/	14	40
15.	S. Janaki (20)	FtMBC	21411017	/	/	/	/	/	/	/	/	/	a	/	a	/	/	/	/	14	40
16.	U. Sriya devi (20)	FtMBC	21411019	/	a	/	/	/	/	/	/	/	/	/	/	/	a	/	/	14	40
17.	Ch. Hima bindu (20)	MBC	22402001	/	/	/	/	a	/	/	/	/	/	/	/	/	a	/	/	14	40
18.	J. Pavani (19)	MBC	22402003	/	/	/	/	/	/	a	/	/	/	/	/	/	a	/	/	14	38
19.	K. Anusha (18)	MBC	22402005	/	/	/	a	/	/	/	/	/	/	/	a	/	/	/	/	14	36
20.	S. Akhila (19)	MBC	22402009	/	/	/	/	/	/	/	a	/	/	/	/	/	/	/	/	15	38
21.	V.V. Akhila (21)	MBC	22402010	/	/	/	/	/	/	/	/	/	a	/	a	/	/	/	/	14	42
22.	A. Santhi kumari (18)	MZC	22403001	/	/	/	/	/	/	a	/	/	/	/	/	/	/	a	/	14	36
23.	D. Nandini (19)	MZC	22403003	/	/	/	/	/	/	/	/	/	a	/	/	/	/	/	/	15	38
24.	D. Parvin (19)	MZC	22403004	/	/	a	/	/	/	/	/	/	/	a	/	/	/	/	/	14	38
25.	G. Harika (21)	MZC	22403006	/	/	/	/	/	/	a	/	/	/	/	/	/	a	/	/	14	42
26.	K. Nageswari (20)	MZC	22403008	/	/	/	/	/	a	a	/	/	/	a	/	/	/	/	/	13	40
27.	K. Sukanya (20)	MZC	22403009	a	/	/	/	/	/	/	/	a	/	/	/	/	/	/	/	14	40
28.	P. Deepthi (22)	MZC	22403011	/	/	/	a	/	/	/	/	/	/	/	/	/	/	/	/	15	46
29.	P. Madhu lekha (20)	MZC	22403012	/	/	/	/	a	/	a	/	/	a	/	/	/	/	/	/	13	40
30.	Sk. Nazeya (20)	MZC	22403015	/	/	/	/	/	a	/	a	/	/	/	/	/	/	/	/	14	40