

Certificate Course : Warmicoposting Technology

Year 2019-2020

To be submitted to the

**AWAHAR ARTS SCIENCE & COMMERCE COLLEGE
ANDUR**

Tq. Tuljapur Dist. Osmanabad

Submitted by

Course Co-ordinator

Dr. D. S. Suryawanshi

Professor & Head Department of Botany

Jawahar Arts Science & Commerce College Andur

Tq. Tuljapur Dist. Osmanabad

November- 2019



**Shikshan Prasarak Mandal, Anadur's
Jawahar Arts, Science & Commerce College,
Anadur, Tq. Tuljapur, Dist- Osmanabad -413603
Department of Botany**

Date:- 02/07/2019

Notice

All the faculty members of Botany Department are hereby informed that a meeting of our department will be held on day 02 / 07 / 2019 under the chairmanship of our head Dr. D. S. Suryawanshi to discuss the following agenda. So everyone should attend on time.

Agenda for meeting:

1. To read and confirm the Proceeding of last meeting.
2. To read and confirm the certificate course.
3. To discuss and design the stricter of certificate course.
4. To prepare and frame the syllabus of certificate course.
5. To formulate the BOS.
6. To prepare the Time-Table of certificate course.
7. To conduct other activities regarding the course.
8. Timely topics with the permission of chairperson.

PRINCIPAL
Jawahar Arts, Science & Commerce
College, Anadur,
Tal. Tuljapur, Dist. Osmanabad.

HOD
Head Department of Botany
Jawahar College Andur,
Tal. Tuljapur, Dist. Osmanabad

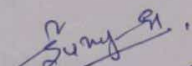



**Shikshan Prasarak Mandal, Anadur's
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Anadur, Tq. Tuljapur, Dist- Osmanabad -413603
Department of Botany**

Proceeding of Botany Departmental Meeting

Today 18/07/2019 a meeting was held in department of chemistry under the chairperson Dr. D. S. Suryawanshi (HOD). In this meeting discussion made on how the conduct the certificate course Warmicoposting Technology. All faculties are unanimously agreed to run this certificate course for all UG students. Discussion was successful regarding to construct the syllabus, timetable, the nature of Question paper and the said course admission form. All faculties assured each other to give healthy contribution for running this course and all other efforts needed. Finally all faculties are firmly decided to construct the syllabus, timetable, sample question paper and admission form and to convey to Hon. Principal for further approval from College Development committee.

- DSS- Dr. D. S. Suryawanshi
- KDA- Mrs .D. A. Kalshetti
- GRV-Shri. R. S. Kale


Head Department of Botany
Jawahar College Andur,
Tal. Tuljapur, Dist. Osmanabad


Principal
Principal
Jawahar Arts, Science & Commerce College
Anadur, Tal. Tuljapur, Dist. Osmanabad.



**Shikshan Prasarak Mandal, Anadur's
Jawahar Arts, Science & Commerce College,
Anadur, Tq. Tuljapur, Dist- Osmanabad -413603
Department of Botany**

Date: 12/08/2019

To,

Principal,

JASC College, Anadur.

Tq. Tuljapur, Dist. Osmanabad.

Sub: To get the permission to Botany department to conduct the certificate course in Warmicoposting Technology for academic year 2019-2020. Dear Sir, With reference to above cited subject I am kindly informing you that a departmental meeting of Botany was held on date 18/07/2019 in this meeting all faculty are unanimously decided to conduct a certificate course in "Warmicoposting Technology" during this academic year 2019-2020.

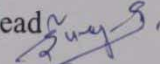
In this meeting we all faculty also make a action plan to run this certificate course with all necessary formalities. So we all the Botany faculty

are requesting to you give us approval for said courses.

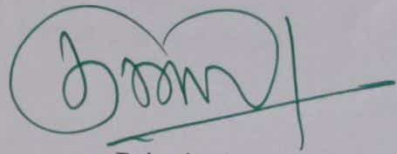
Attached:

- ✓ Departmental proceeding
- ✓ Time-Table
- ✓ Syllabus
- ✓ Question Paper Pattern
- ✓ Admission form

**Mrs .D. A. Kalshetti
Shri. R. S. Kale**

Head 

Dr. D. S. Suryawanshi
Head Department of Botany
Jawahar College Andur,
Tal. Tuljapur, Dist. Osmanabad



Principal

Principal

Jawahar Arts, Science & Commerce College
Anadur, Tal. Tuljapur, Dist. Osmanabad.



**Shikshan Prasarak Mandal, Anadur's
Jawahar Arts, Science & Commerce College,
Anadur, Tq. Tuljapur, Dist- Osmanabad -413603**

Date: 16/08/2019

To,
The Head,
Department of Botany
Jawahar ASC College, Anadur,
Tq. Tuljapur, Dist. Osmanabad.

Subject: Approval to conduct the certified course for students of science.

As per the decision taken in College Development Committee, you are directed to conduct the Certificate course in Warmicoposting Technology in your department for the students of our college. The course should be of 30 hours and be conducted in the academic year 2019-2020.

Convey your timetable of the said course to the timetable committee so as to avoid any overlapping of lecturers.

Principal
Principal

Jawahar Arts, Science & Commerce College
Anadur, Tal. Tuljapur, Dist. Osmanabad.



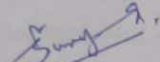
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Department of Botany**

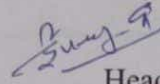
Date:- 26/08/2019

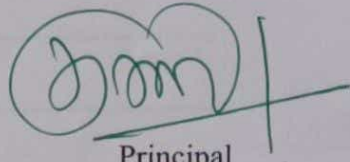
Notice

All the students of science faculty are hereby informed that the Department of Botany is going to conduct a value added / skill based certificate course on "Warmicoposting Technology" during this academic year 2019-2020 from 02/09/2019 to 30/09/2019 (30 hours).

The interested students may enroll their name with Mr. Namdev Kale at department of Botany before 27/08/2019


Co-coordinator


Head
Head Department of Botany
Jawahar College Andur,
Tal. Tuljapur, Dist. Osmanabad


Principal
Principal
Jawahar Arts, Science & Commerce College
Anadur, Tal. Tuljapur, Dist. Osmanabad



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Department of Botany

Jawahar Arts, Science & Commerce College, Anadur

Department of Botany

Certificate Course on Warmicoposting Technology

Student registration form (2019-2020)

Name of Student: Ky. Ghuge Priyanka Balaji

Class and Roll No: B-sc-I AA01

Contact No: _____

Email address: _____

Corresponding Address: At Post. Andur
Tq. Tuljapur, Dist. Osmanabad,

Priyanka Ghuge
Signature of Student

Singh B.
Co-coordinator

Singh B.
Head
head Department of Botany
Jawahar College Andur,
Tal. Tuljapur, Dist. Osmanabad

[Signature]
Principal
Principal
Jawahar Arts, Science & Commerce College
Anadur, Tal. Tuljapur, Dist. Osmanabad.

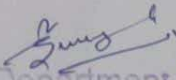


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Department of Botany

Add on Course on Vermicoposting Technology

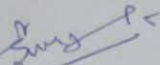
Enrollment List of Students 2019-2020

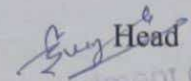
Sr. No	Roll Number	Name of Student	Class
1	AA-01	Ku. Ghuge Prriyanka Balaji	B. Sc. I
2	AA-02	Ghughe Rohan Ravindra	B. Sc. I
3	AA-03	Ku. Giram Laxmi babu	B. Sc. I
4	AA-04	Gunjkar Pramod Kashimath	B. Sc. I
5	AA-05	Gurav Govind Dnyanand	B. Sc. I
6	AA-06	Ku. Gurav Pooja Shivaram	B. Sc. I
7	AA-07	Ku. Hagalgunde Pallavi Balu	B. Sc. I
8	AA-08	Ku. Hakke Aishwarya Yashvant	B. Sc. I
9	AA-09	Hagalgunde Suraj Andoba	B. Sc. I
10	AA-10	Handrale Chardakant Sachinand	B. Sc. I
11	AA-11	Hattarge Mahesh Ramesh	B. Sc. I
12	AA-12	Ku. Inde Renuka Navnath	B. Sc. I
13	AA-13	KU. Jadhav Aarti Vittal	B. Sc. I
14	AA-14	Jagdale Bhahusaheb Gajendra	B. Sc. I
15	AA-15	KU. Jatte Nambrata Baburao	B. Sc. I
16	AA-16	Jagdale Suraj Laxman	B. Sc. I
17	AA-17	Ku. Kadam Dipali Yuraj	B. Sc. I
18	AA-18	Ku. Kadam Priyanka Shivaji	B. Sc. I
19	AA-19	Ku. Kadam Shubhangi Shahuraj	B. Sc. I
20	AA-20	Ku. Kadam Swati Pandit	B. Sc. I
21	AA-21	Ku. Kadam Vijayshri Lahu	B. Sc. I
22	AA-22	Ku. Kage Monika Mahadev	B. Sc. I
23	AA-23	Klae Prasad Vijinath	B. Sc. I
24	AA-24	Ku. Kamble Ujavalla Gunvant	B. Sc. I
25	AA-25	Karpe Basavaraj Sunil	B. Sc. I
26	AA-26	Ku. Kate Bhagyshri Arun	B. Sc. I
27	AA-27	Ku. Kate Danshri Bhimrao	B. Sc. I
28	AA-28	Ku. Khabule Savita Sudhakar	B. Sc. I
29	AA-29	Ku. Kidve Snehal Shivanand	B. Sc. I
30	AA-30	Ku. Kohale Pratibha Pandurang	B. Sc. I
31	AA-31	Ku. Kore Baby Ramesh	B. Sc. I
32	AA-32	Ku. Kore Practi Basaveshwer	B. Sc. I
33	AA-33	Kore Shrishal Channaveer	B. Sc. I
34	AA-34	Ku. Kshirsagar Aarati Rajkumar	B. Sc. I
35	AA-35	Kulkarni Omkar Suryakant	B. Sc. I
36	AA-36	Kulkarni Sandash Satish	B. Sc. I

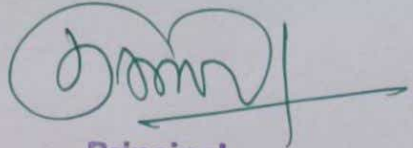

Head Department of Botany
Jawahar College Andur,
Tal. Tuljapur, Dist. Osmanabad


Principal
Jawahar Arts, Science & Commerce College
Anadur, Tal. Tuljapur, Dist. Osmanabad.

37	AA-37	Ku. Khumbar Jyoti Sidappa	B. Sc. I
38	AA-38	Ku. Khumbar Laxmi Arun	B. Sc. I
39	AA-39	Kumbhar Mlleshwer Dayanand	B. Sc. I
40	AA-40	Ku. Hannure Reshama Yogesh	B. Sc. I


Co-coordinator


Head Department of Botany
Jawahar College Andur,
Tal. Tuljapur, Dist. Osmanabad


Principal

Jawahar Arts, Science & Commerce College
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**Shikshan Prasarak Mandal, Anadur's
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Department of Botany**

Syllabus of Certificate Course in "Vermicomposting Technology"

1. Vermicomposting Technology

Unit-I General Vermiculture/ Vermicomposting

Introduction to vermin culture. definition, meaning, history, economic important, their value in maintenance of soil structure, role as four r's of recycling reduce, reuse, recycle, restore. His role in bio transformation of the residues generated by human activity and production of organic fertilizers. How does nature works. The matter and humus cycle (product, qualities). Ground population, transformation process in organic matter. Choosing the right worm. Useful species of earthworms. Local species of earthworms. Exotic species of earthworms. Complementary activities of autoevaluation.

Unit-II Earthworm Biology and Rearing

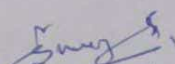
Key to identify the species of earthworms. Biology of Eiseniafetida.

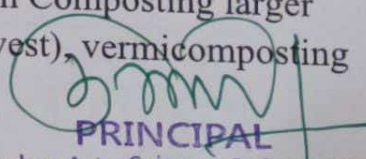
- Taxonomy Anatomy, physiology and reproduction of Lumbricidae.
- Vital cycle of Eiseniafetida: alimentation, fecundity, annual reproducer potential and limit factors (gases, diet, humidity, temperature, PH, light, and climatic factors). Complementary activities of auto evaluation. Biology of Eudriluseugeniae.
- Taxonomy Anatomy, physiology and reproduction of Eudrilidae.
- Vital cycle of Eudriluseugeniae: alimentation, fecundity, annual reproducer potential and limit factors (gases, diet, humidity, temperature, PH, light, and climatic factors).

Complementary activities of auto evaluation.

Unit-III. Vermicomposting Technology (Methods and Products)

Small Scale Earthworm farming for home gardens - Earthworm compost for home gardens. Conventional commercial composting - Earthworm Composting larger scale. Earthworm Farming (Vermiculture), Extraction (harvest), vermicomposting


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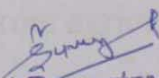
harvest and processing. Nutritional Composition of Vermicomposting for plants, comparison with other fertilizers. Vermiwash collection, composition & use Enemies of Earthworms, Sickness and worm's enemies. Frequent problems. How to prevent and fix them. Complementary activities of auto evaluation.

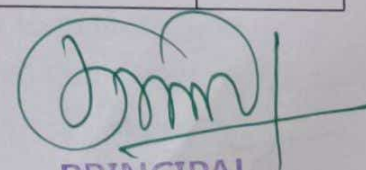
Unit-IV Applied vermiculture.

- a) The working group experience with *E. fetida*. populations comporment with farm industrial residues (frigorific, cow places, feed-lot, aviaries exploitations, and solid urban residues). b) Lineaments to vermicomposting elaboration projects. c) Considerations about economic aspects of this activity. Research and readability according to different exploitation orientations (worm's meat production, worm's humus production, or integrated projects). Toxins released by the worms (harmful effects).

b) Practical Course – VT- 02

	Unit-V	15 Hrs.
1	Key to identify different types of earthworms	
2	Field trip- Collection of native earthworms & their identification	
3	Study of Systematic position, habits, habitat & External characters of <i>Eiseniafetida</i>	
4	Study of Life stages & development of <i>Eiseniafetida</i>	
5	Study of Life stages & development of <i>Eudriluseugeniae</i>	
6	Comparison of morphology & life stages of <i>Eiseniafetida</i> & <i>Eudriluseugeniae</i>	
7	Study of Vermiculture, Vermiwash&Vermicompostequipments, devices	
8	Preparation vermibeds, maintenance of vermicompost& climatic conditions.	
9	Harvesting, packaging, transport and storage of Vermicompost and separation of life stages	
10	Study of verms diseases & enemies	
11	Study the effects of vermicompost&vermiwash on any two short duration crop plants	
12	Study the effects of sewage water on development of worms	


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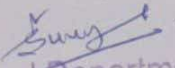

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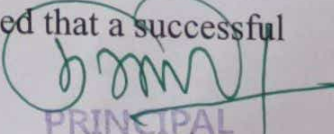
Vermicomposting Technology

Vermicomposting truly is nature's great disappearing act! Aristotle once said, "Worms are the Intestines of the Earth". Using worms to convert decomposing food waste into nutrient-rich fertilizer is simple, inexpensive, energy efficient, and a great way to teach students to become life-long recyclers. Vermicomposting technology is known throughout the world, albeit in limited areas. It may be considered a widely spread, though not necessarily popular technology. As a process for handling organic residuals, it represents an alternative approach in waste management, in as much as the material is neither land filled nor burned but is considered a resource that may be recycled. In this sense, vermicomposting is compatible with sound environmental principles that value conservation of resources and sustainable practices. Vermicomposting is akin to composting in that similar feedstock-organic residuals -are used. Both systems utilize microbial activity to break down organic matter in the moist, aerobic environment.

Vermicomposting is however faster, produces fewer odors and produces a superior product. But vermicomposting requires greater surface area, more moisture, and is susceptible to heat, high salt levels, high ammonia levels, and substances that may be toxic to earthworms. Of the 4400 identified earthworm species, specific species of litter dwelling earthworms are required for this purpose. Vermicomposting in developing countries could prove to be useful in many instances. Where accumulation of food wastes, paper, cardboard, agriculture waste, manures and biosolids is problematic, composting and vermicomposting offer potential to turn waste material into a valuable soil amendment. In the past ten years an organization in India has promoted over 3,000 farmers and institutions to switch from conventional chemicals to the organic fertilizer, vermicompost. Vermiculture enables any scale or size of operation.

Vermicompost is being used in over 1, 00,000 hectare cultivated area in almost all agro-climatic zones in India. Noted for its ability to increase organic matter and trace minerals in soil, vermiculture has been the primary focus at Maharashtra Agricultural Bioteks in India, an organization that has initiated both commercial and educational ventures to promote vermiculture. In 1985, Maharashtra Agricultural Bioteks was formed and established a small plant to manufacture vermicompost from agricultural waste. Those involved believed that a successful

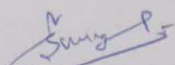

Head Department of Botany
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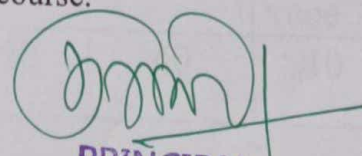

PRINCIPAL
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College, Andur,
Tal. Tuljapur, Dist. Osmanabad.

commercial venture based on regenerative principles might convince others to adapt sustainable practices. The organization currently produces 5,000 tons of vermicompost annually.

Its real achievement, however, has been in raising awareness among farmers, researchers and policy makers in India about regenerative food production methods. The group is directly responsible for 2,000 farmers and horticulturalists adopting vermicomposting. These converts have begun secondary dissemination of the principles they were taught. In 1991-1992, Maharashtra Bioteks and the India Department of Science And Technology promoted the adoption of vermicompost technology in 13 states in India. The group has also established a vermicompost unit with Chitrakoot Gramodaya University, Madhya Pradesh which produces five tons of vermicompost per month.

Educational institutes in Maharashtra & other states have started conducting certificate/diploma/regular courses on vermiculture, vermiculture biotechnology, and vermiculture & vermicompost technology. The duration of courses ranges from 10 days to six months. The Department of Zoology in collaboration with Geography & Botany Departments running this course.


Head Department of Botany
Jawahar College Andur,
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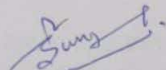


Shikshan Prasarak Mandal, Anadur's
Jawahar Arts, Science & Commerce College,
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Department of Botany (2019-2020)

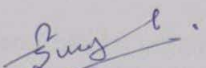
This Course is included Theory classes, field visit assignment ,
Practicals

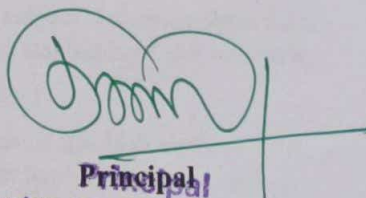
Course structure & Examination Scheme

Course name	Contact classes (hours)	Laboratory experiment (hours)	Theory Marks	Practical Marks		Total Marks
				Practical	Viva-voce	
Warmicoposting Technology	15	15	50	40	10	100


Co-ordinator

(Dr. D. S. Suryawanshi)


Head of Department
head Department of Botany
Jawahar College Andur,
Tal. Tuljapur, Dist. Osmanabad


Principal
Jawahar Arts, Science & Commerce College
Anadur, Tal. Tuljapur, Dist. Osmanabad.



Shikshan Prasarak Mandal, Anadur's
Jawahar Arts, Science & Commerce College,
Anadur, Tq. Tuljapur, Dist- Osmanabad -413603
Department of Botany

Ref.No.JASC/Chem/Syll/BOS/2019-2020/

Date: 06/08/2019

To,

1} Dr. D. S. S. Suryawanshi

2} Dr. Dr. S. R. Biradar

Ad-hoc Board in Botany

Ad-hoc Board in Botany

JASC College, Anadur,

BSS College, Makani

Tq. Tuljapur, Dist. Osmanabad

Tq. Lohara, Dist. Osmanabad.

Mob: 9511770582

Mob: 9284313450

3} Mrs. D. A. Kalshetti

4} Shri. R. S. Kale

Ad-hoc Board in Botany

Ad-hoc Board in Botany

JASC College, Anadur,

ASC. College. Anadur

Tq. Tuljapur, Dist. Osmanabad.

Tq. Tuljapur, Dist. Osmanabad

Mob: 8237171931

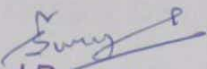
Mob: 9881558676

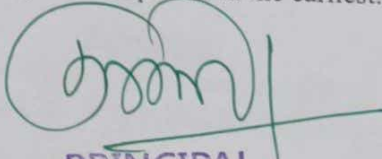
Subject: Constitution of Ad-hoc Board in Botany (Certificate Courses-Soil & Water Analysis)

Sir/Madam,

I am to inform you that the Hon'ble Principal is pleased to nominate you as a Member/Chairman on the Ad-hoc Board in Botany for this previous year 2018-2019 as per provision statute-159 of the university act. While requesting you to accept this invitation to work on the Ad-hoc Board. I do realize your busy moments in your own field. Yet in view of your expertise in the subject. I shall be thankful if you accept the membership of the Ad-hoc Board for enriching the academic standards of the university through your valuable contribution.

Your appointment shall be governed by and subject to the provisions of the Maharashtra Public University Act, 2016 as amended from time to time. Kindly communicate your acceptance at the earliest.


Head Department of Botany
Jawahar College Andur,
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Shikshan Prasarak Mandal, Anadur's
Jawahar Arts, Science & Commerce College,
Anadur, Tq. Tuljapur, Dist- Osmanabad -413603
Department of Botany

Add on Course on Warmicoposting Technology

Date: 29/08/2019

Theory Time Table – 2019-2020

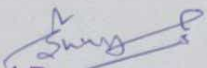
Lecture	Time	Monday	Tuesday	Wednesday	Thursday	Friday
I	03.00 to 04.00	DSS	KDA	KRS	DSS	KDA
II	04.00 to 05.00	DSS	KDA	KRS	DSS	KRS
III	05.00 to 06.00	DSS	KDA	KRS	DSS	DSS

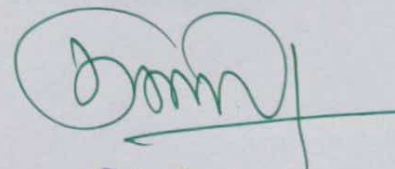
Practical Time Table – 2019-2020

Time	Monday	Tuesday	Wednesday	Thursday	Friday
03.00 to 04.30	DSS	KDA	KRS	KDA	DSS
04.30 to 06.00	DSS	KDA	KRS	KDA	DSS

List of Faculty Contributing for this Course

- DSS- Dr. D. S. Suryawanshi
- KDA- Mrs .D. A. Kalshetti
- KRS -Shri. R. S. Kale


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Tal. Tuljapur, Dist. Osmanabad


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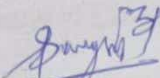


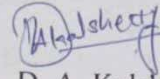
Shikshan Prasarak Mandal, Anadur's
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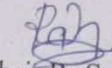
Date: 13/08/2019

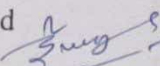
BOS Meeting Proceeding

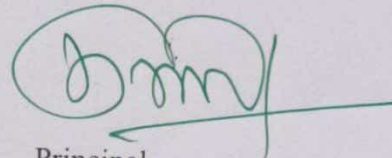
As per requested all BOS member are gathered together to discuss regarding the syllabus of certificate course in Warmicoposting Technology going to conduct by department of Botany during the academic year 2019-2020. In this meeting under the chairperson of head of department Dr. D.S.Suryawanshi, discussion made on designing syllabus as well as how to implement the said course smoothly and fruitful. All members put their view and finally decided the syllabus, duration of one month regular with day to day activities. After vote of thanks expressed by Mrs. D.A. Kalshetti the said meeting is over.


Dr. S. R. Biradar


Mrs. D. A. Kalshetti


Shri. R. S. Kale

Head 
Dr. D. S. Suryawanshi
Head Department of Botany
Jawahar College Andur,
Tal. Tuljapur, Dist. Osmanabad


Principal
Principal
Jawahar Arts, Science & Commerce College
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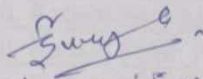
**Shikshan Prasarak Mandal, Anadur's
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Department of Botany**

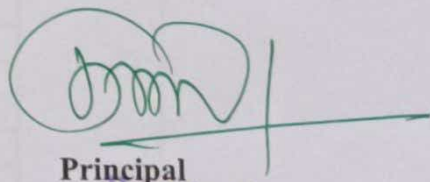
Conducting Co-curricular course

“Warmicoposting Technology”

1. Name of Department: **Botany**
2. Type of Programme: **value added / skill based certificate course**
3. Title of Programme: **Certificate course in “Warmicoposting Technology**
4. Name of Co-ordinator: **Dr. . D. S. Suryawanshi**
4. Faculty offered: **B.Sc. I**
5. Name of Teachers: **Mrs .D. A. Kalshetti**
Shri. Kale R. S.
6. Duration: **30 hours**
7. Theory: **15 Hours**
8. Practical: **15 Hours.**

Head


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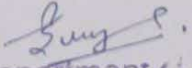
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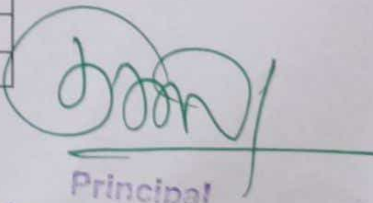
Notice

All the students enrolled in certificate course in **Vermicoposting Technology** run by department of Botany are hereby informed that the Department of Botany is going to conduct a final test on "**Vermicoposting Technology**" during this month on

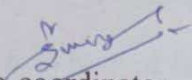
Time-Table for Exam 2019-2020

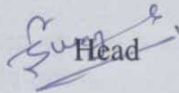
Sr. No	Roll. Number	Name of Student	Hall Number
1	AA-01	Ku. Ghuge Priyanka Balaji	16
2	AA-02	Ghuge Rohan Ravindra	
3	AA-03	Ku. Giram Laxmi babu	
4	AA-04	Gunjkar Pramod Kashimath	
5	AA-05	Gurav Govind Dnyanand	
6	AA-06	Ku. Gurav Pooja Shivaram	
7	AA-07	Ku. Hagalgunde Pallavi Balu	
8	AA-08	Ku. Hakke Aishwarya Yashvant	
9	AA-09	Hagalgunde Suraj Andoba	
10	AA-10	Handrale Chardakant Sachinand	
11	AA-11	Hattarge Mahesh Ramesh	16
12	AA-12	Ku. Inde Renuka Navnath	
13	AA-13	KU. Jadhav Aarti Vittal	
14	AA-14	Jagdale Bhahusaheb Gajendra	
15	AA-15	KU. Jatte Nambrata Baburao	
16	AA-16	Jagdale Suraj Laxman	
17	AA-17	Ku. Kadam Dipali Yuraj	
18	AA-18	Ku. Kadam Priyanka Shivaji	
19	AA-19	Ku. Kadam Shubhangi Shahuraj	
20	AA-20	Ku. Kadam Swati Pandit	
21	AA-21	Ku. Kadam Vijayshri Lahu	
22	AA-22	Ku. Kage Monika Mahadev	
23	AA-23	Klae Prasad Vijnath	
24	AA-24	Ku. Kamble Ujavalla Gunvant	
25	AA-25	Karpe Basavaraj Sunil	
26	AA-26	Ku. Kate Bhagyshri Arun	
27	AA-27	Ku. Kate Danshri Bhimrao	
28	AA-28	Ku. Khabule Savita Sudhakar	


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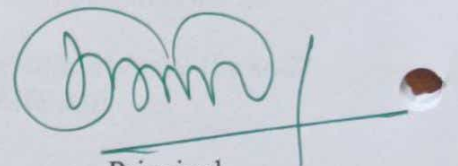

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29	AA-29	Ku. Kidve Snehal Shivanand	
30	AA-30	Ku. Kohale Pratibha Pandurang	
31	AA-31	Ku. Kore Baby Ramesh	
32	AA-32	Ku. Kore Practi Basaveshwer	
33	AA-33	Kore Shrishal Channaveer	
34	AA-34	Ku. Kshirsagar Aarati Rajkumar	
35	AA-35	Kulkarni Omkar Suryakant	
36	AA-36	Kulkarni Sandash Satish	
37	AA-37	Ku. Khumbar Jyoti Sidappa	
38	AA-38	Ku. Khumbar Laxmi Arun	
39	AA-39	Kumbhar Mlleshwer Dayanand	
40	AA-40	Ku. Hannure Reshama Yogesh	


Co-coordinator


Head

Head Department of Botany
Jawahar College Andur,
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Principal

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Department of Botany

Add on Course on "Vermicomposting Technology"

Question Paper – 2019-2020

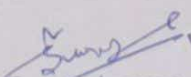
Date:

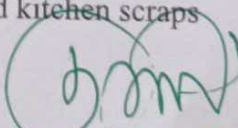
All questions are necessary

Each Ques. Carry 2 marks.

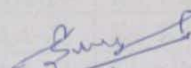
Total Marks: 50

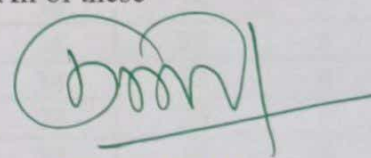
- Which of the following is a mixture of ingredients used to fertilize and improve the soil?
a. Phosphatic fertilizers b. Mycelium c. Compost d. Alfa-Alfa
- Which of the following earthworm specie is not recommended for vermicomposting?
a. Eudrilus eugeniae b. Eisenia fetida c. Perionyx excavates d. Pheretima Posthuma
- Which of the following worms are used for vermicomposting?
a. Flatworm b. Roundworm c. Redworm d. Pinworm
- The use of earthworms to convert organic waste into fertilizer is known as:
a. Vermiculture b. Composting c. Vermicomposting d. None of these
- Compost manure is formed from:
a. Rotted vegetable and animal refuse b. Farnyard manure and green manure
c. Farm refuse and household refuse d. Organic wastes from which biogas has been extracted
- Choose the correct statement regarding compost:
a. Decomposed remnants of organic material b. Decomposed remnants of inorganic material
c. Fresh remnants of organic material d. Fresh remnants of inorganic material
- Which of the following form the first layer of compost?
a. Branches and twigs b. Leaves c. Grass clipping d. Kitchen scraps
- What is the width of the second layer of compost?
a. 4-6 inches b. 4-10 inches c. 6-10 inches d. 3-15 inches
- Which of the following form the second layer of compost?
a. Branches and twigs b. Twigs c. Water d. Leaves, grass and kitchen scraps


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10. What is the most widely used earthworm species for vermicomposting?
 a. Lumbricus terrestris b. Eisenia andrei and Eisenia fetida c. Aporectodea limicola
 d. Arctiostrotus vancouverensis
11. Which of the following are benefits of vermicomposting?
 a. Improve soil texture b. Improve water holding capacity c. Reduce erosion
 d. All of these
12. Which of the following is not suitable for vermicomposting?
 a. Pheretima Posthuma b. Red wigglers c. White worms d. Earthworms
13. Choose the correct statement regarding vermicomposting:
 a. Using worms to decompose organic waste b. Eliminating worms from you compost
 c. Fresh remnants of organic material d. Selling worms as a business
14. How long will it take for the worm population to double for vermiculture?
 a. Two months b. Three months c. One month d. Three weeks
15. What type of bin is best for vermicomposting?
 a. Plastic b. Wood c. Metal d. All of these
16. What is known as black gold in vermicomposting?
 a. Worm oil b. Black worms c. Worm casts d. Red worms
17. Which of the following chemicals are used for protecting vermi-bed from ants
 a. DDT b. Griseofulvin c. Chlorpyriophosphate d. Chloramphenicol
18. What percentage of moisture level is required for vermicomposting operations?
 a. Below 30% b. 40-50% c. 20-100% d. 70-80%
19. What is the maximum temperature required for vermicomposting?
 a. 20C to 25C b. 25C to 30C c. 35C to 40C d. 30C to 35C
20. Vermicompost is used as a bio-fertilizer because it is rich in:
 a. Calcium b. Nitrogen c. Phosphorus d. All of these


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Department of Botany

Add on Course on Vermicoposting Technology

Mark List – 2019- 2020

Sr. No	Roll. Number	Name of Student	Class	Theory Out of 50 Marks	Practical Out of 40 Marks	Viva-Voce Out of 10 Marks	Total
1	AA-01	Ku. Ghuge Prriyanka Balaji	B. Sc. I	40	34	4	78
2	AA-02	Ghuge Rohan Ravindra	B. Sc. I	36	36	7	79
3	AA-03	Ku. Giram Laxmi babu	B. Sc. I	38	34	7	79
4	AA-04	Gunjkar Pramod Kashimath	B. Sc. I	32	32	8	72
5	AA-05	Gurav Govind Dnyanand	B. Sc. I	36	35	5	76
6	AA-06	Ku. Gurav Pooja Shivaram	B. Sc. I	40	36	6	82
7	AA-07	Ku. Hagalgunde Pallavi Balu	B. Sc. I	38	34	7	79
8	AA-08	Ku. Hakke Aishwarya Yashvant	B. Sc. I	40	32	6	78
9	AA-09	Hagalgunde Suraj Andoba	B. Sc. I	42	33	5	80
10	AA-10	Handrale Chardakant Sachinand	B. Sc. I	40	34	6	80
11	AA-11	Hattarge Mahesh Ramesh	B. Sc. I	38	34	7	79
12	AA-12	Ku. Inde Renuka Navnath	B. Sc. I	40	32	6	78
13	AA-13	KU. Jadhav Aarti Vittal	B. Sc. I	42	33	5	80
14	AA-14	Jagdale Bhahusaheb Gajendra	B. Sc. I	40	34	6	80
15	AA-15	KU. Jatte Nambrata Baburao	B. Sc. I	38	35	5	78
16	AA-16	Jagdale Suraj Laxman	B. Sc. I	36	36	5	77
17	AA-17	Ku. Kadam Dipali Yuraj	B. Sc. I	32	32	6	70
18	AA-18	Ku. Kadam Priyanka Shivaji	B. Sc. I	40	32	5	77
19	AA-19	Ku. Kadam Shubhangi Shahuraj	B. Sc. I	38	34	5	77
20	AA-20	Ku. Kadam Swati Pandit	B. Sc. I	36	25	5	66
21	AA-21	Ku. Kadam Vijayshri Lahu	B. Sc. I	36	28	6	70
22	AA-22	Ku. Kage Monika Mahadev	B. Sc. I	34	28	6	68
23	AA-23	Klae Prasad Vijinath	B. Sc. I	38	30	5	74
24	AA-24	Ku. Kamble Ujavalla Gunvant	B. Sc. I	32	32	6	70
25	AA-25	Karpe Basavaraj Sunil	B. Sc. I	38	29	5	72
26	AA-26	Ku. Kate Bhagyshri Arun	B. Sc. I	40	30	4	74
27	AA-27	Ku. Kate Danshri Bhimrao	B. Sc. I	42	34	7	83
28	AA-28	Ku. Khabule Savita Sudhakar	B. Sc. I	38	32	6	76
29	AA-29	Ku. Kidve Snehal Shivanand	B. Sc. I	36	32	5	73
30	AA-30	Ku. Kohale Pratibha Pandurang	B. Sc. I	38	30	6	74
31	AA-31	Ku. Kore Baby Ramesh	B. Sc. I	40	34	4	78

Sunil
Head Department of Botany
Jawahar College Andur,
Tal. Tuljapur, Dist. Osmanabad

[Signature]
Principal
Jawahar Arts, Science & Commerce College
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**Shikshan Prasarak Mandal, Anadur's
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Department of Botany (2019-2020)**

Certificate Course : Warmicoposting Technology

Course Outcome

Students will be able to compost in a limited space and describe the decomposing process.

The interested students will get the knowledge of composting,

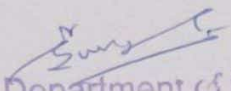
Students will get the employment,

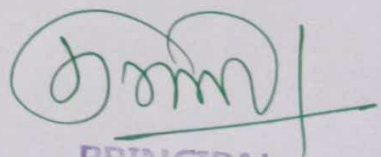
They can generate employments,

They will also turn towards organic farming,

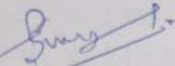
Will help to maintain the environment pollution free and

Will get the knowledge of biodiversity of local earthworms

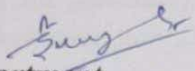

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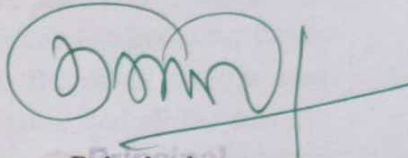

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32	AA-32	Ku. Kore Practi Basaveshwer	B. Sc. I	36	36	7	79
33	AA-33	Kore Shrishal Channaveer	B. Sc. I	38	34	7	79
34	AA-34	Ku. Kshirsagar Aarati Rajkumar	B. Sc. I	32	32	8	72
35	AA-35	Kulkarni Omkar Suryakant	B. Sc. I	36	35	5	76
36	AA-36	Kulkarni Sandash Satish	B. Sc. I	40	36	6	82
37	AA-37	Ku. Khumbar Jyoti Sidappa	B. Sc. I	38	34	7	79
38	AA-38	Ku. Khumbar Laxmi Arun	B. Sc. I	40	32	6	78
39	AA-39	Kumbhar Mlleshwer Dayanand	B. Sc. I	42	33	5	80
40	AA-40	Ku. Hannure Reshama Yogesh	B. Sc. I	40	34	6	80


Co-ordinator

(Dr. D. S. Suryawanshi)


Head of Department
head Department ()
Jawahar College Andur,
Tal. Tuljapur, Dist. Osmanabad


Principal
Jawahar Arts, Science & Commerce College
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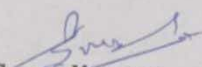
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Certificate Course Final Report

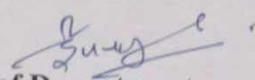
Date: 08/10/2019

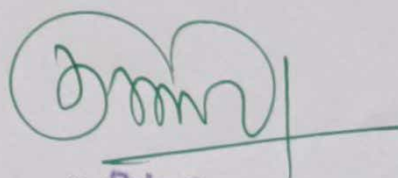
On "Warmicoposting Technology -2019-2020"

Certificate course in Soil & Water Analysis is completed successfully with fruitful result. As per notice issued by department of Botany for students to made registration for this course, within little time 60 students registered their names for said course. Then by taking MCQ entrance test, we have selected 40 students. Meanwhile we have completed all the required formalities like CDC approval, syllabus design, and lecture distribution and also to nominate BOS members too. We have engaged 30 hours (15 hours for theory and 15 hours for practical). Meanwhile we have also engaged the doubt session also. Finally after syllabus completion we held final exam for said course and all the students enrolled for food chemistry certificate course successfully passed with good percentage marks. The Warmicoposting Technology certificate course question paper is of 100 marks. (25 question carry 2 marks each & 40 marks of Practical & 10 for viva-voce). Near about 22 students scored more than 40 marks, while remaining students scoring in between 37 to 40 marks. After result declaration we have organized a certificate distribution and award function for the students of course in kind presence of Hon. Principal. Dr. Umakant Chanshetti sir and our staff members' of Botany department.


Co-ordinator

(Dr. D. S. Suryawanshi)


Head of Department
Head Department of Botany
Jawahar College Andur,
Tal. Tuljapur, Dist. Osmanabad



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