



RAYAT SHIKSHAN SANSTHA'S
S.S.G.M.COLLEGE, COLLEGE, KOPARGAON
DIST. - AHMEDNAGAR, 423601 (M.S.)

CERTIFICATE COURSE IN VERMICOMPOSTING

Academic Year 2019-20

Duration:-3 Months

Credit:-43

Coordinator: - Mr. Vilas R. Jiwatode

Faculty Members

- 1) Mr. R. K. Bhusnale
- 2) Mr. R. R. Raut
- 3) Miss. J. M. Petare
- 4) Miss. A. B. Gore

Aim of Course:-

- 1) Students are expected to understand the principle of Vermicomposting.
- 2) They are expected to understand morphology, physiology and composting mechanism of the animal.
- 3) The practicals are implemented to understand the concepts and it would help in the development of practical skills of the students.
- 4) It is expected to inspire and boost the interest of students towards the subject, which will be helpful to avoid the use of chemical fertilizers and more and more application of organic fertilizers.

5) It will enable to develop interdisciplinary approach of the subject.

Skills and opportunities:-

Faculty of Zoology, Vermicomposting course is a professional course targeted to train the students to start their own Vermicomposting Unit, as there is a demand for vermicompost and organic farming. The information, guidance, practical training and completion certificate will provide to the participants with not one but many opportunities in the Vermicomposting Industry. This would come true in form of job roles and positions like that of Vermicompost Producer Farmers.



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S.S.G.M.COLLEGE, COLLEGE, KOPARGAON

DIST. - AHMEDNAGAR, 423601 (M.S.)

CERTIFICATE COURSE IN VERMICOMPOSTING

Academic Year 2019-20

Certificate course in Vermicomposting

34 Credits

Syllabus

Section : I- Theory

25 lecture

- 1) Introduction
- 2) Vermicompost
- 3) Earthworm :
 - a) Habit and habitat
 - b) Different species of Earthworm, Indigenous and Exotic species
 - c) Life cycle of Earthworm
 - d) Digestive system
 - e) Reproductive system
- 4) Role of Earthworm in Vermicomposting
- 5) Uses of Earthworm
- 6) Methods of Vermicomposting
 - a) Surface Bed method (farm)
 - b) Vermicomposting at home
 - c) Vermicomposting in plastic tub or wooden box

7) Methods for Preparation of Vermiwash

- a) Cot method
- b) Barrel Method

8) Enemies of Earthworm

9) Importance & Composition of Vermicompost

Section : II Practicals

14 lecture

- 1) Preparation of bed- selection of site, collection of cow dung, soil, garbage and making water available. Mixing all the above material and making into hump.
- 2) Release of Earthworm into the bed
- 3) Regular watering of bed so as to keep proper humidity
- 4) Regular addition of garbage and dry leaves into the bed.

Section : III Field work

06 lecture

- 1) Harvesting of cocoon and Earthworms
- 2) Separation of Vermicompost from the bed

References

- 1) Gupta, R., Mutiyar, P.K, Rawat, N.K., Saini, M.S., and Garg, V.K. 2007. **Development of a water hyacinth based vermireactor using an epigeic earthworm *Eisenia foetida*. *Bioresource Technology* 98(13):2605-10.**
- 2) Parthasarathi, K., Ranganathan, L.S., Anandi, V., and Zeyer, J. 2007. **Diversity of microflora in the gut and casts of tropical composting earthworms reared on different substrates. *Journal of Environmental Biology* 28(1):87-97.**
- 3) Pramanik, P., Ghosh, G.K., Ghosal, P.K., and Banik, P. 2007. **Changes in organic – C, N, P and K and enzyme activities in vermicompost of biodegradable organic wastes under liming and microbial inoculants. *Bioresource technology* 98(13):2485-94.**
- 4) Roberts, P., Edwards-Jones, G., and Jones, D.L. 2007. **Yield responses of wheat (*Triticum aestivum*) to vermicompost applications. *Compost Science & Utilization* 15(1):6-15.**



Rayat Shikshan Santha's
Shri Sadguru Gangageer Maharaj Science , Gautam Arts & Sanjivani Commerce College,
Kopargaon – 423601,
Dist.- Ahmednagar, M. S. – India

**Internal Quality Assurance Cell
(IQAC)**

Syllabus Approval Letter

The IQAC committee has approved the submitted syllabus of short term/Certificate course planned to be conducted by the Department of Zoology.

Sr.No.	Name of Course	Type of Course
01	Vermiculture	Short term course/Certificate course

HOD of Zoology Department may proceed accordingly.

Date: 10/08/2019

Place: Kopergaon


IQAC Co-ordinator
IQAC Co-ordinator
S.S.G.M.College,Kopergaon



S.R.T.
Principal
S.S.G.M. College
Kopergaon, Dist.A'Nagar



Rayat Shikshan Sanstha's,
S.S.G.M. College, Kopargaon
Department of Zoology
SHORT TERM COURSE: 2019-20
CERTIFICATE COURSE IN VERMICULTURE

Date: 10/08/2019

Notice

All students of Science faculty are hereby informed that Department of Zoology is going to commence the short term course Certificate Course in Vermiculture in academic year 2019-20. Those who are interested can register their names in the Department of Zoology for same course.

Information regarding course:

Name: Vermiculture assistant.

Qualification: XIIth Science pass.

Duration: 3 months.

Job profile: The trained person will be able to work in Vermiculture farm independently.


Coordinator




Head
Department of Zoology
Department of Zoology
S.S.G.M. College, Kopargaon



Rayat Shikshan Sanstha's,
S.S.G.M. College, Kopergaon
Department of Zoology
SHORT TERM COURSE: 2019-20
CERTIFICATE COURSE IN VERMICULTURE

Date: 10/08/2019

Meeting Notice

All the faculty members of Department of Zoology are hereby informed that Department of Zoology is going to conduct a short term course in Vermiculture in academic year 2019-20. The syllabus and working hours have been discussed and a complete programme has been prepared. Following members are requested to attend the meeting for the implementation of this academic year 2019-2020. The meeting will be held in Department of Zoology.


Co-ordinator


Head Head
Department of Zoology
Department of Zoology
S.S.G.M. College, Kopergaon

Committee Members

- 1) Mr. R. K. Bhusnale
- 2) Mr. R. R. Raut
- 3) Miss. J. M. Petare
- 4) Miss. A. B. Gore





Rayat Shikshan Sanstha's,
S.S.G.M. College, Kopargaon
Department of Zoology
SHORT TERM COURSE: 2019-20
CERTIFICATE COURSE IN VERMICULTURE

Date: 10/08/2019

Minutes of Meeting

The meeting of the Short Term Course Committee has been conducted on 10/08/2019 at Department of Zoology. In meeting the following resolutions and decisions were made:

- 1) It was decided to revise the syllabus of Short term course Certificate Course in Vermiculture.
- 2) For conducting the course the complete program of Theory and Practicals was designed.
- 3) As per the requirements of completion of the syllabus of short term course the working hours were decided.


Co-ordinator




Head
Department of Zoology
S.S.G.M. College, Kopargaon



Rayat Shikshan Sanstha's,
S.S.G.M. College, Kopargaon
Department of Zoology
SHORT TERM COURSE: 2019-20
CERTIFICATE COURSE IN VERMICULTURE

Date: 10 /08 /2019

Notice

All students of T.Y. B.Sc. Zoology are hereby informed that Department of Zoology will be conducting short term course "Certificate Course in Vermiculture" in academic year 2019-20. Those who are interested can register their names to **Prof. Mr. V. R. Jiwatode** up to the **date of 19/08/2019**, in the Department of Zoology for same course.


Co-ordinator




Head
Department of Zoology
Department Of Zoology
S.S.G.M. College, Kopargaon



Rayat Shikshan Sanstha's,
S.S.G.M. College, Kopargaon
Department of Zoology
SHORT TERM COURSE: 2019-20
CERTIFICATE COURSE IN VERMICULTURE

Date: 25/11/2019

Notice

All students of T.Y. B.Sc. Zoology who have enrolled for short term course "Certificate Course in Vermiculture" in academic year 2019-20, is hereby informed that their lectures will start from 02/12/2019 on 02:30 pm. at Department of Zoology. The attendances to the lectures are compulsory.


Co-ordinator




Head
Department of Zoology
S.S.G.M. College, Kopargaon



CERTIFICATE COURSE IN VERMICOMPOSTING

Co - ordinate by:	Department of Zoology
Class:	T.Y. B.Sc. (Zoology)
Batch Capacity:	10
No. of students Admitted:	10
Duration of the course:	3 Months
Fee of Course:	200/-
Lecture and Practical started:	December, January and February
Tentative Date of Examination:	2 nd Week of March
Tentative date of Result:	3 rd Week of March
Syllabus:	4 Credits

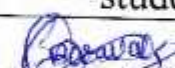
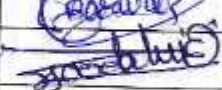





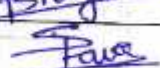

V. R. Jiwade
Co-ordinator

Head
Department Of Zoology
S.S.G.M. College, Kopergaon

Rayat Shikshan Sanstha's
S.S.G.M. College, Kopargaon
Department of Zoology
Short Term Course
2019-20


Certificate Course in Vermiculture

Fees collected from the students

Sr. No.	Name of the students	Fees	Signature of students
1	Baravkar Geetanjali R.	200 ✓	
2	Dalvi Rajesh Prakash	200 ✓	
3	Ghumare Ashwini Laxman	200 ✓	
4	Jadhav Deepali Sanjay	200 ✓	
5	Jagdale Mayur Bhagwan	200 ✓	
6	Kale Pratiksha Dnyashwar	200 ✓	
7	Kshirsagar Ravindra Rajendra	200 ✓	
8	Nagare Rutika Sunil	200 ✓	
9	Pawar Shreye Sudhakar	200 ✓	
10	Shinde Vaibhav Maruti	200 ✓	


Course co-ordinator




Head of Department
Department Of Zoology
S.S.G.M. College, Kopargaon



RAYAT SHIKSHAN SANSTHA'S
S.S.G.M.COLLEGE, COLLEGE, KOPARGAON
DIST. - AHMEDNAGAR, 423601 (M.S.)



SHORT TERM COURSE
"CERTIFICATE COURSE IN VERMICOMPOSTING"
Academic Year 2019-20

ADMISSION FORM

NAME	Kshirsagar Ravindra Rajendra
CLASS	T.Y. B.Sc. (Zoology)
ADDRESS	At. Talegaon (Male) . Tal- Kopergaon Dist- A. Nagar.
CONTACT NUMBER	9730645602, 8999622195
E-MAIL ID	kravi992370@gmail.com

To,
The Principal,
S.S.G.M. College, Kopergaon,
Dist- ahmednagar.

Subject: Request to an admission in "Certificate course in Vermicomposting",

Respected Sir,

I have been admitted in T.Y. B.Sc. Zoology class in your college, during the academic year 2019-2020. I wish to complete above short term course run by our college. Kindly give me a permission by granting my admission.

Your's faithfully,

Sign: 
Name: Kshirsagar Ravindra Rajendra.

Recommendation:


Co-ordinator




Head
Department of Zoology
S.S.G.M. College, Kopergaon
Department Of Zoology
Head



Rayat Shikshan Sanstha's,
S.S.G.M. College, Kopergaon
Department of Zoology
Short Term Course: 2019-20

A CERTIFICATE COURSE IN VERMICULTURE

Attendance T. Y. B. Sc. Zoology

Sr. NO	Roll No.	Name of the Student									
1	8301	Baravkar Geetanjali R.	Geetanjali	Geetanjali	Geetanjali	Geetanjali	Geetanjali	Geetanjali	Geetanjali	Geetanjali	Geetanjali
2	8302	Dalvi Rajesh Prakash	Rajesh	Rajesh	Rajesh	Rajesh	Rajesh	Rajesh	Rajesh	Rajesh	Rajesh
3	8303	Ghumare Ashwini Laxman	Ashwini	Ashwini	Ashwini	Ashwini	Ashwini	Ashwini	Ashwini	Ashwini	Ashwini
4	8304	Jadhav Deepali Sanjay									
5	8305	Jagdale Mayur Bhagwan	Mayur	Mayur	Mayur	Mayur	Mayur	Mayur	Mayur	Mayur	Mayur
6	8306	Kale Pratiksha Dnyashwar									
7	8307	Kshirsagar Ravindra Rajendra	Ravindra	Ravindra	Ravindra	Ravindra	Ravindra	Ravindra	Ravindra	Ravindra	Ravindra
8	8308	Nagare Rutika Sunil	Rutika	Rutika	Rutika	Rutika	Rutika	Rutika	Rutika	Rutika	Rutika
9	8309	Pawar Shreye Sudhakar	Shreye	Shreye	Shreye	Shreye	Shreye	Shreye	Shreye	Shreye	Shreye
10	8310	Shinde Vaibhav Maruti	Vaibhav	Vaibhav	Vaibhav	Vaibhav	Vaibhav	Vaibhav	Vaibhav	Vaibhav	Vaibhav

Antole
Co-ordinator



Antole
Head
Department of Zoology
Head
Department Of Zoology
S.S.G.M. College, Kopergaon



RAYAT SHIKSHAN SANSTHA'S
S.S.G.M.COLLEGE, COLLEGE, KOPARGAON
DIST. - AHMEDNAGAR, 423601 (M.S.)

SHORT TERM COURSE
“ CERTIFICATE COURSE IN VERMICOMPOSTING ”
Academic Year 2019-20



ADMISSION FORM

NAME	Buravkar Geetanjali Rajendra
CLASS	T.Y. B.Sc. (Zoology)
ADDRESS	At Post. Manjuri Tal - Kopergaon, Dist. - A'Nager
CONTACT NUMBER	7066733114
E-MAIL ID	geetanjali2242000@gmail.com

To,
The Principal,
S.S.G.M. College, Kopargaon,
Dist- ahmednagar.

Subject: Request to an admission in “ Certificate course in Vermicomposting”,

Respected Sir,

I have been admitted in T.Y. B.Sc. Zoology class in your college, during the academic year 2019-2020. I wish to complete above short term course run by our college. Kindly give me a permission by granting my admission.

Your's faithfully,

Sign: 
Name: Buravkar Geetanjali Rajendra

Recommendation:


Co-ordinator




Head
Department of Zoology
Department Of Zoology
S.S.G.M. College, Kopergaon



Rayat Shikshan Sanstha's,
S.S.G.M. College, Kopargaon
Department of Zoology
SHORT TERM COURSE: 2019-20
CERTIFICATE COURSE IN VERMICULTURE

List of Students

Sr. NO	Roll No.	Name of the Student
1	8301	Baravkar Geetanjali R.
2	8302	Dalvi Rajesh Prakash
3	8303	Ghumare Ashwini Laxman
4	8304	Jadhav Deepali Sanjay
5	8305	Jagdale Mayur Bhagwan
6	8306	Kale Pratiksha Dnyashwar
7	8307	Kshirsagar Ravindra Rajendra
8	8308	Nagare Rutika Sunil
9	8309	Pawar Shreye Sudhakar
10	8310	Shinde Vaibhav Maruti



Head

Department Of Zoology
S.S.G.M. College, Kopargaon



Rayat Shikshan Sanstha's,
S.S.G.M. College, Kopergaon
Department of Zoology
Short Term Course: 2019-20

CERTIFICATE COURSE IN VERMICULTURE

TIME TABLE

DECEMBER 2019

Monday(Theory)	Tuesday (Theory)	Wednesday (Theory)
02/12/2019 (VRJ)	03/12/2019 (VSJ)	04/12/2019 (VSJ)
09/12/2019 (RKB)	10/12/2019 (RKB)	11/12/2019 (JMP)
16/12/2019 (RRR)	17/12/2019 (RRR)	18/12/2019 (ABG)
23/12/2019 (JMP)	24/12/2019 (ABG)	-

**TIME TABLE
JANUARY 2020**

Monday(Theory)	Tuesday (Theory)	Wednesday (Theory)
06/01/2020 (VRJ)	07/01/2020 (VRJ)	08/01/2020 (VRJ)
13/01/2020 (RRR)	14/01/2020 (RRR)	15/01/2020 (RKB)
20/01/2020 (JMP)	28/01/2020 (ABG)	29/01/2020 (RKB)

**TIME TABLE
FEBRUARY 2020**

Monday (Practical)	Tuesday (Practical)	Wednesday (Practical)
03/02/2020 (VRJ)	04/02/2020 (VRJ)	05/02/2020 (VRJ)
10/02/2020 (RKB)	11/02/2020 (RRR)	12/02/2020 (JMP)
17/02/2020 (ABG)	18/02/2020 (RRR)	-

Co-ordinator

V. Antide



Head
Department of Zoology
Department Of Zoology
S.S.G.M. College, Kopergaon

V. Antide

विभागप्रमुख,
सुलोनी विभाग
दि. 20/12/20

मा. प्राचार्य,
एस.एस.जी.एम. कॉलेज, कोपरगाव.

विषय - गोंडूकृत प्रकल्पसाठी खालील साठीय निवडणेबाबत.

महोदय,

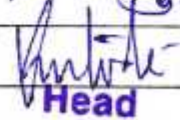
सुलोनी विभागातील 2018-20 या शैक्षणिक वर्षीत गोंडूकृत प्रकल्प चालू करणाऱ्या शाळेला आहे. त्यासाठी खालील साठीयाची आवश्यकता आहे.

- १) डोणखत - १ टोली.
- २) गोंडूकृत विधाने
- ३) एन.सी.क. वारदाता
- ४) मुंगी पावडर.
- ५) ~~ए~~ दामते - ३ मग.

वर्षीत साठीय खरेदीसाठी व इतर कामासाठी रक्कम अंदाजे ₹ १०,०००/- (दहा हजार पावत) ची आवश्यकता आहे. तरी कृपया वरीलप्रमाणे साठीय खरेदी व कामास परतानगी मिळावी, ही विनंती.

कडवे,

आपला विश्वासू,

f 
Head

Department Of Zoology
S.S.G.M. College, Kopergaon

16
30

Rayat Shikshan Sanstha's
S.S.G.M. College , Kopargaon
Department of Zoology
2019-20

Name of student : Bamvkar Gitanjali Rajendra..... Date:

Total marks : 30

Time : 30min

A Certificate course in Vermiculture
Mcq type exam

Q.1) Multiple choice questions

30M

- 1) Which of the following chemicals is used for protecting vermi-bed from ants ?
 - a) DDT
 - b) Griseotulvin
 - c) Chloramphenicol
 - d) Chlorpyriophosphate
- 2) Which of the following is a commonly used earthworm species for the vermicomposition process ?
 - a) Eisenia fetida
 - b) Perionix excavatus
 - c) Both (a) and (b)
 - d) None of above
- 3) The highly composed organic matter rich in minerals like nitrogen , phosphorus and potassium in particular produced from the activity of earthworm is called
 - a) Humus
 - b) Vermicompost
 - c) Worm casting
 - d) Compost bedding
- 4) Vermicompost is used as a biofertilizer because it is rich in
 - a) Calcium
 - b) Nitrogen
 - c) Phosphorus
 - d) All of the above
- 5) The moistur level required for vermicompositing should be between
 - a) Below 30%
 - b) 40% to 50%
 - c) 70% to 80%
 - d) Above 90%
- 6) Which of the following is not raw material required fot preparing compost ?
 - a) Cow dung
 - b) Weed biomass
 - c) Dry straw & leaves
 - d) All of the above

7) Which of the following products can not be used for vermicomposting ?

- a) Cow dung
- b) Plant material
- c) Animal waste
- d) All of the above

8) Which of the following used for vermicomposting

- a) Algae
- b) Nitriting bacteria
- c) Earthworm
- d) Fungus

9) Vermicompost is a / an

- a) Toxic material
- b) Organic biofertilizer
- c) Inorganic fertilizer
- d) Synthetic fertilizer

10) Which of the following nutrients is abundantly found in worm casting ?

- a) Phosphorus
- b) Nitrogen
- c) Calcium & other minerals
- d) All of these

11) The maximum temperature to be maintained for Vermicomposting is

- a) 20 c
- b) 25 c
- c) 30 c
- d) 35 c

12) Which type of earthworms are majorly required for Vermicomposting ?

- a) Anecic
- b) Epigeic
- c) Endogenic
- d) All of the above

13) Vermicompost is in colour

- a) Red
- b) Black
- c) White
- d) Brown

14) What is Vermicomposting ?

- a) Composting using rats
- b) Composting using birds
- c) Composting using worms
- d) A name for landfill

15) What s best worms for composting ?

- a) Red wigglers
- b) Maggots
- c) Pink worms
- d) Dosen't matter



Rayat Shikshan Sanstha's,
S.S.G.M. College, Kopargaon
Department of Zoology

SHORT TERM COURSE : 2019-20
A CERTIFICATE COURSE IN VERMICULTURE

Result

Sr. NO	Roll No.	Name of the Student	Marks (Out of 30)
1	8301	Baravkar Geetanjali R.	26
2	8302	Dalvi Rajesh Prakash	20
3	8303	Ghumare Ashwini Laxman	20
4	8304	Jadhav Deepali Sanjay	20
5	8305	Jagdale Mayur Bhagwan	22
6	8306	Kale Pratiksha Dnyashwar	26
7	8307	Kshirsagar Ravindra Rajendra	24
8	8308	Nagare Rutika Sunil	24
9	8309	Pawar Shreye Sudhakar	24
10	8310	Shinde Vaibhav Maruti	22




Head
Department Of Zoology
S.S.G.M. College, Kopargaon



Rayat Shikshan Sanstha's
S.S.G.M.College, Kopargaon
Dist.-Ahmednagar

Certificate Course in Vermiculture

Feedback Form (Year 2019-20)

How you like this activity?

(Please tick (✓) on the appropriate option)

Criteria's	Excellent	Very Good	Good	Average	Poor
Content of the curriculum			✓		
Quality of Lectures		✓			
Quality of Practical's	✓				
Arrangement of Tour and hands on training collaboratively organized		✓			
Is the course is applicable for entrepreneurship development in your future life	✓				
Overall Evaluation of the Course		✓			
Is the course is beneficial for students & Parents as far as environment & Crop production is concerned	✓				
Any Suggestions:					

Name of the Students: Bharwadkar Greetanjali Rajendra

Class: TYBSC

Signature:



Rayat Shikshan Sanstha, Satara
Karmaveer Vidya Prabodhini



CERTIFICATE

This is to certify that Shri / Smt

..... (Class) of

(College)

..... has successfully completed

a short term course in

Academic year 20 20 (From To) and

secured Grade.

80 and above - A Grade

65 to 79 - B Grade

50 to 64 - C Grade

PRINCIPAL

Executive Director
Karmaveer Vidyaprabodhini

Chairman
Karmaveer Vidyaprabodhini



Rayat Shikshan Sanstha's,
S.S.G.M. College, Kopergaon

Department of Zoology
Short Term Course: 2019-20

CERTIFICATE COURSE IN VERMICULTURE

DEPARTMENT OF ZOOLOGY



Eudrilus eugeniae Species of earthworm



Bed Preparation for Vermicomposting



Bed Preparation for Vermicomposting



Bed Preparation for Vermicomposting