

Rayat Shikshan Sanstha's

DADA PATIL MAHAVIDYALAYA, KARJAT

Dist. Ahmednagar

Sample Copy of

SHORT TERM COURSE

(Vermicomposting Technology)

(2018-19)

Rayat Shikshan Sanstha's
Dada Patil Mahavidyalaya, Karjat, Dist-Ahmednagar,
Certificate Course

In

“Vermicomposting Technology”

Organized By

Department of Zoology

In Collaboration With

Karmaveer Vidya Prabodhini


NOTICE


All the students of T.Y.B.Sc Zoology are hereby informed that Department of Zoology will arrange Certificate Course in “**Vermicomposting Technology**” from 02/08/2017 to 31/01/2018.

Interested students please contact Mr.M.R.Khan (Course Coordinator) at Department of Zoology.

Important notes:

1. Course fee Rs 100/- per participants.
2. Duration of the course-30 Hrs.
3. Lecture/Practical Timing-10:00 am to 11:00 am.
4. Course medium-English.
5. Evaluation by oral examination.


Dr. Indira Patil
Department of Zoology.


Principal,
Dada Patil Mahavidyalaya,
Karjat, Dist-Ahmednagar.



Rayat Shikshan Sanstha's
Dada Patil Mahavidyalaya, Karjat, Dist-Ahmednagar,

DEPARTMENT OF ZOOLOGY

Certificate Course
In

“Vermicomposting Technology”

02/08/2017 to 31/01/2018

Course Objective and Outcome

Course Objectives:

- The students can understand the decomposition process and can convert into organic fertilizers.
- The students can understand the process of composting.
- Will help to maintain the environment pollution free and
- Will get the knowledge of biodiversity of local earthworms.

Course Outcome:

- Students will get the employment.
- They can generate employments.
- They will also turn towards organic farming.
- They can start short or large scale Vermicompost plant.



M.R.Khan,

Course Co-ordinator.



Dr. Indira Paul
Head,

Department of Zoology.



Rayat Shikshan Sanstha's
Dada Patil Mahavidyalaya, Karjat, Dist-Ahmednagar,
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Syllabus

Sr.No	Chapter	Sub Topics	Lectures	Practical's
1	Introduction to Vermiculture	Definition, Meaning and History	02	----
2	Introduction of Earthworm	Systematic, Habit-Habitat Morphology, Anatomy of Earthworm Study of Life Stages, Enemies and Study of Worm Disease.	03	03
3	Useful Species of Earthworm	Local and Exotic Species	02	-----
4	Production of Organic Fertilizer	Preparation & Maintenance of Vermicomposting Bed	04	10
5	Economic Importance	Value in maintenance of soil structure, role as four r's of recycling reduce, reuse ,recycle, ,restore, plant waste collection	02	04
Total			13	17

Board of Studies:

Dr.Mrs.I.M.Patil


Mr.M.R.Khan

Mr.D.S.Kumbhar

Shri Pokhale (External Expert)


M.R.Khan,
Course Co-ordinator.




Principal,
Dada Patil Mahavidyalaya,
Karjat, Dist-Ahmednagar.

Rayat Shikshan Sanstha's
Dada Patil Mahavidyalaya, Karjat, Dist-Ahmednagar,

DEPARTMENT OF ZOOLOGY

Certificate Course
In

“Vermicomposting Technology”

02/08/2017 to 31/01/2018

WORK DISTRIBUTION

Sr.No.	Name of the Faculty	Theory + Practical's (In Hours)
1.	Dr.Mrs.I.M.Patil	08
2.	Mr.M.R.Khan	08
3.	Mr.D.S.Kumbhar	04
4.	Mr.S.A.Shaikh	04
5.	Mr.G.Z.Jamdade	02
6.	Miss.R.J.Shinde	04



M.R.Khan,
Course Co-ordinator.



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Dada Patil Mahavidyalaya,
Karjat, Dist-Ahmednagar.



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Syllabus

Theory

Total Hours-13

- 1) **Introduction to Vermiculture-** Definition, meaning, history, economic importance, Value in maintenance if soil structure.
- 2) Production of organic fertilizers.
- 3) Transformation process in organic matter.
- 4) **Useful species of earthworms-** Local species of earthworms. Exotic species of earthworms.
- 5) **Key to identify the species of earthworms-** Biology of *Eisenia fetida*, Taxonomy, Anatomy, Physiology and Reproduction of Lumbricidae, Vital cycle of *Eisenia fetida*.
- 6) Biology of *Eudrilus eugeniae*, Taxonomy, Anatomy, Physiology and Reproduction of Eudrilidae, Vital cycle of *Eudrilus eugeniae*.
- 7) Small scale earthworm farming for home gardens-Earthworm compost for home gardens.
- 8) Conventional commercial composting-Earthworm composting larger scale.



- 9) Earthworm farming (Vermiculture), Extraction (harvest), Vermicomposting.
- 10) Nutritional composition of vermicompost for plants, comparison with other fertilizers.
- 11) Vermiwash collection, composition & use.
- 12) Enemies of earthworms, sickness and worm's enemies.

Practical's

Total Hours-17

- 1) Key to identify different types of earthworms.
- 2) Study of systematic position, habits, habitat & external characters of *Eisenia fetida*.
- 3) Study of life stages and development of *Eisenia fetida*
- 4) Study of life stages and development of *Eudrilus eugeniae*.
- 5) Comparison of morphology and life stages of *Eisenia fetida* and *Eudrilus eugeniae*.
- 6) Study of Vermiculture, Vermiwash and Vermicompost equipments, devices.
- 7) Preparation of vermibeds, maintenance of Vermicomposting and climatic conditions.
- 8) Study of worms diseases and enemies.
- 9) Study the effects of Vermicomposting and vermiwash on any two short duration crop plants.

References:

2. Bhatt J.V. & S.R. Khambata (1959) "Role of Earthworms in Agriculture" Indian Council of Agricultural Research, New Delhi
9. Dash, M.C., B.K.Senapati, P.C. Mishra (1980) " Verms and Vermicomposting" Proceedings of the National Seminar on Organic Waste Utilization and Vermicomposting Dec. 5-8, 1984, (Part B), School of Life Sciences, Sambalpur University, Jyoti Vihar, Orissa.
10. Edwards, C.A. and J.R. Lofty (1977) "Biology of Earthworms" Chapman and Hall Ltd., London.
11. Lee, K.E. (1985) "Earthworms: Their ecology and Relationship with Soils and Land Use" Academic Press, Sydney.
12. Kevin, A and K.E.Lee (1989) " Earthworm for Gardeners and Fisherman" (CSIRO, Australia, Division of Soils)
13. Rahudakar V.B. (2004). Gandul khatashivay Naisargeek Paryay, Atul Book Agency, Pune
14. Satchel, J.E. (1983) "Earthworm Ecology" Chapman Hall, London.
15. Wallwork, J.A. (1983) "Earthworm Biology" Edward Arnold (Publishers) Ltd. London.

Board of Studies:

Dr.Mrs.I.M.Patil
Mr.M.R.Khan
Mr.D.S.Kumbhar
Shri Pokhale (External Expert)



Rayat Shikshan Sanstha's
Dada Patil Mahavidyalaya, Karjat, Dist-Ahmednagar,

DEPARTMENT OF ZOOLOGY

Certificate Course
In

“Vermicomposting Technology”

01/01/2017 to 31/01/2017 30 Hrs.

SYLLABUS

Theory-

14 Hrs

- 1) Introduction to vermiculture. Definition, meaning, history, economic important, their value in maintenance of soil structure. - Dr. IMP
- 2) Production of organic fertilizers. - SAS
- 3) Transformation process in organic matter. - SAS
- 4) Useful species of earthworms. Local species of earthworms. Exotic species of earthworms. - MRK
- 5) Key to identify the species of earthworms. Biology of *Eisenia fetida*, Taxonomy Anatomy, physiology and reproduction of Lumbricidae, Vital cycle of *Eisenia fetida*. } Q.SK
- 6) Biology of *Eudrilus eugeniae*. Taxonomy Anatomy, physiology and reproduction of Eudrilidae, Vital cycle of *Eudrilus eugeniae*.
- 7) Small scale Earthworm farming for home gardens, - Earthworm compost for home gardens. - Dr IMP
- 8) Conventional commercial composting,- Earthworm Composting larger scale - MRK
- 9) Earthworm Farming (Vermiculture), Extraction (harvest), vermicomposting harvest and processing. - MRK
- 10) Nutritional Composition of Vermicompost for plants, comparison with other fertilizers. - MRK
- 11) Vermiwash collection, composition & use. - MRK
- 12) Enemies of Earthworms, Sickness and worm's enemies. - GZJ



Practical Course-

12 Hrs

- 1) Key to identify different types of earthworms - MPR
- 2) Field trip- Collection of native earthworms & their identification MPR
- 3) Study of Sytematic position, habits, habitat & External characters of *Eisenia fetida* QSK
- 4) Study of Life stages & development of *Eisenia fetida* QSK
- 5) Study of Life stages & development of *Eudrilus eugeniae* QSK
- 6) Comparison of morphology & life stages of *Eisenia fetida* & *Eudrilus eugeniae* QSK
- 7) Study of Vermiculture, Vermiwash & Vermicompost equipments, devices. MPR
- 8) Preparation vermibeds, maintenance of vermicompost & climatic conditions. MPR
- 10) Study of verms diseases & enemies. -GRJ.
- 11) Study the effects of vermicompost & vermiwash on any two short duration crop plants. QSK
- 12) Field Visit to large scale vermicerter. MPR
- 13) Submission of practical record.

4 Hrs.



Course Coordinator



Head

Department of Zoology.



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Karjat, Dist-Ahmednagar.



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M.R.Khan,

Course Co-ordinator.



Dr. Indira Patil
Head,

Department of Zoology.



25	Deyanekar Saurabh Anil	T.Y.B.Sc.
26	Jagtap Vasudev Ramesh	T.Y.B.Sc.
27	Kadam Kailas Dada	T.Y.B.Sc.
28	Kale Shankar R	T.Y.B.Sc.
29	Raut Dipak Sadashiv	T.Y.B.Sc.
30	Sarode Tejes Kailash	T.Y.B.Sc.
	Patil Dr. I. M. Patil	Sarode T
	Patil Dr. D.S. Kumbhar	Sarode T
	Mr. M.R. Khan	Sarode T
	Patil Dr. I. M. Patil	Sarode T
	Mr. M.R. Khan	Sarode T
	Shaikh Mr. S.A. Shaikh	Sarode T
	Patil Dr. I. M. Patil	Sarode T
	Shaikh Mr. S.A. Shaikh	Sarode T
	Patil Mr. D.S. Kumbhar	Sarode T
	Mr. M.R. Khan	Sarode T
	Patil Dr. I. M. Patil	Sarode T
	Patil Ms. D.S. Kumbhar	Sarode T
	Mr. M.R. Khan	Sarode T
	Patil Dr. I. M. Patil	Sarode T
	Patil Ms. D.S. Kumbhar	Sarode T
	Mr. M.R. Khan	Sarode T
	Patil Dr. I. M. Patil	Sarode T
	Patil Dr. I. M. Patil	Sarode T
	Patil Ms. D.S. Kumbhar	Sarode T
	Patil Mr. D.S. Kumbhar	Sarode T
	Shaikh Mr. S.A. Shaikh	Sarode T
	Mr. M.R. Khan	Sarode T
	Patil G.J. Jambade	Sarode T
	Patil Dr. I. M. Patil	Sarode T
	Patil Dr. I. M. Patil	Sarode T
	Patil Ms. D.S. Kumbhar	Sarode T
	Patil Mr. D.S. Kumbhar	Sarode T
	Shaikh Mr. S.A. Shaikh	Sarode T
	Mr. M.R. Khan	Sarode T
	Patil G.J. Jambade	Sarode T
	Patil Mr. D.S. Kumbhar	Sarode T
	Patil Mr. D.S. Kumbhar	Sarode T
	Shaikh Mr. S.A. Shaikh	Sarode T
	Patil Dr. I. M. Patil	Sarode T
	Mr. M.R. Khan	Sarode T
	Patil Ms. D.S. Kumbhar	Sarode T

Teacher's Name & Signature



Department of Zoology

Head, Patil

Rayat Shikshan Sanstha's
Dada Patil Mahavidyalaya, Karjat, Dist-Ahmednagar,
Certificate Course

“Vermicomposting Technology”

Department of Zoology 2017-18
Certificate distribution.

Sr.No.		
01	/Bansode Ashwini Sakhamam .	<u>Bansode</u>
02	/Bobade Mohini Ramdas .	<u>Bobade</u>
03	/Chavan Sakhubai Prallhad .	<u>Chavan</u>
04	/Dande Komal Dhananjay .	<u>Dande</u>
05	/Galande Kalpana Narayan .	<u>Galande</u>
06	/Gangarde Arti Rajendra .	<u>Gangarde</u>
07	/Janjire Komal Barikrao .	<u>Janjire</u>
08	/Janjire Pallavi Manohar .	<u>Janjire</u>
09	/Janjire Priyanka Indrabhan .	<u>Janjire</u>
10	/Kadam Pratiksha Kalyan .	<u>Kadam</u>
11	/Kamble Usha Devidas .	<u>Kamble</u>
12	/Lalge Pallavi Dilip .	<u>Lalge</u>
13	/Mulik Rukmini Janardan .	<u>Mulik</u>
14	/Netake Monika Navnath .	<u>Netake</u>
15	/Pawar Sonali Rajendra .	<u>Pawar</u>



16	/Raut Dipali Sharad	<u>Raut</u>
17	/Rodge Pooja Tukaram	<u>Rodge</u>
18	/Sautade Priyanka Jyotiram	<u>Sautade</u>
19	/Sayyad Safiya Mohamad	
20	Shelake Dipali Dattatray	<u>Shelake D.D.</u>
21	/Shelar Manisha Haribhau	<u>Shelar m.H</u>
22	/Shinde Namrata Deepak	<u>Namrata</u>
23	/Thakar Pratiksha Suryakant	
24	Bidgar Akash Dhondiba	<u>Bidgar</u>
25	Devganakar Saurabh Anil	<u>Saurabh</u>
26	Jagtap Vasudev Ramesh	<u>Jagtap</u>
27	Kadam Kailas Dada	
28	Kale Shankar R	<u>Kale</u>
29	Raut Dipak Sadashiv	<u>Raut</u>
30	Sarode Tejes Kailash	<u>Sarode</u>
31	Ekud Ganesh Suryakant	<u>Ekud G.S.</u>

M.R.Khan,
M.R.Khan,

Dr. Indira Patil
Head,

Course Co-ordinator.

Department of Zoology



Rajaw Shikshan Samstha's
Dada Patil Mahavidyalaya, Karjat
Department of Zoology

SHORT TERM COURSE IN VERMICOMPOSTING TECHNOLOGY (2017-2018)

Sr.No.	Name of the Student's	Amount	Sign
1	/Bansode Ashwini Sakharan	100	<u>Bansode</u>
A 2	/Bedre Rohini Vilas		
3	/Bobade Mohini R.	100	<u>Bobade M.R.</u>
4	/Chavan Sakhubai P.	100	<u>Ch</u>
5	/Dande Komal Dhananjay	100	<u>Komal</u>
6	/Galande Kalpana Narayan	100	<u>Galande K.N.</u>
7	/Gangarde Arti Rajendra	100	<u>Gangarde</u>
8	/Janjire Komal Barikrao	100	<u>Janjire</u>
9	/Janjire Pallavi Manohar	100	<u>Janjire</u>
10	/Janjire Priyanka Indrabhan	100	<u>Janjire</u>
11	/Kadam Pratiksha Kalyan	100	<u>Kadam</u>
12	/Kamble Usha Devidas	100	<u>Kamble U.D.</u>
13	/Lalge Pallavi Dilip	100	<u>Lalge</u>
14	/Mulik Rukmini Janardan	100	<u>Mulik</u>
A 15	/Narsale Prithavi Babu		
A 16	/Narsale Prithvi B.		
17	/Netake Monika Navnath	100	<u>Monika</u>
A 18	/Pawar Jyoti Dasharth		
19	/Pawar Sonali Rajendra	100	<u>Sonali</u>
20	/Raut Dipali Sharad	100	<u>Raut</u>
21	/Rodge Pooja Tukaram	100	<u>Rodge</u>
22	/Sautade Priyanka Jyotiram	100	<u>Sautade</u>
23	/Sayyad Safiya Mohamad	100	
24	/Shelar Dipali Dattatray	100	<u>Shelar D.D.</u>
25	/Shelar Manisha Haribhau	100	<u>Shelar M.H.</u>



26	/Shinde Namrata Deepak		100	<u>Namrata</u>
27	/Thakar Pratiksha Suryakant		100	<u>Pratiksha</u>
28	Bidgar Akash D.	.	100	<u>Bidgar</u>
29	Devganakar Saurabh A.		100	<u>Saurabh</u>
30	Jagtap Vasudev R	.	100	
31	Kadam Kailas D.		100	<u>Kadam K.D.</u>
32	Kale Shankar D		100	<u>Shankar</u>
A 33	Nikat Akshay D.		-	
34	Raut Dipak Sadashiv	.	100	<u>Raut</u>
35	Sarode Tejes Kailash	.	100	<u>Tejes</u>
36	Ekad Ganesh S.	.	100	
37				
38				
39				
40				



Rayat Shikshan Sanstha's
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Certificate Course
 In

“Vermicomposting Technology”

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Department of Zoology

Students Feedback (2017-2018)

Please Tick (✓) The Appropriate Option

Sr.No.	Name of the Student's	Very Good	Good	Average	Signature
01	/Bansode Ashwini Sakharam		✓		Bansode
02	/Bobade Mohini Ramdas	✓			B.M.R
03	/Chavan Sakhubai Prallhad	✓			chavan SP
04	/Dande Komal Dhananjay		✓		Dhandekar
05	/Galande Kalpana Narayan			✓	
06	/Gangarde Arti Rajendra		✓		
07	/Janjire Komal Barikrao				
08	/Janjire Pallavi Manohar		✓		
09	/Janjire Priyanka Indrabhan	✓			
10	/Kadam Pratiksha Kalyan		✓		
11	/Kamble Usha Devidas	✓			
12	/Lalge Pallavi Dilip		✓		
13	/Mulik Rukmini Janardan		✓		
14	/Netake Monika Navnath		✓		
15	/Pawar Sonali Rajendra	✓			
16	/Raut Dipali Sharad		✓		
17	/Rodge Pooja Tukaram	✓			
18	/Sautade Priyanka Jyotiram	✓			
19	/Sayyad Safiya Mohamad		✓		
20	/Shelar Dipali Dattatray	✓			
21	/Shelar Manisha Haribhau	✓			
22	/Shinde Namrata Deepak		✓		
23	/Thakar Pratiksha Suryakant		✓		
24	Bidgar Akash Dhondiba		✓		
25	Devganakar Saurabh Anil	✓			
26	Jagtap Vasudev Ramesh	✓			
27	Kadam Kailas Dada	✓			
28	Kale Shankar R		✓		
29	Raut Dipak Sadashiv		✓		Raut DS
30	Sarode Tejes Kailash		✓		Tejas S.K

[Signature]

Course Co-ordinator.



[Signature]

**Head,
Department of Zoology**

Rayat Shikshan Sanstha's
DADA PATIL MAHAVIDYALAYA, KARJAT.
Dist. Ahmednagar.

DEPARTMENT OF ZOOLOGY

**Certificate Course in Vermicomposting Technology
(2017-2018)**

REPORT

3/02/2018

Now a days people shows lot of interest in Vermicomposting due to increasing environmental concerns and use of sustainable fertilizers. Vermicomposting is the Ecofriendly method of converting organic waste into nutrient rich fertilizer. It will help to keep the environment pollution free and students can get the knowledge of biodiversity of local earthworms. From this course the students can understand the process of composting using earthworm species *Eisenia foetida*. Beside the subject knowledge ,their commercial application should to be taken into consideration for self-employment as our students are mostly having rural & farming background .By considering this to make our student self-reliable & competent. Department of Zoology has organized short term course on “**Vermicomposting Technology**” for the academic year 2017-2018 For this year, 30 students have registered their names and actively participated in this course. The course was started on 02/08/2017 and completed on 31/01/2018. All the faculty members were involved in lectures and practicals as per syllabus distributed within 60 days. At the end of the course, a 50 Marks exam was conducted and certificates were distributed to qualified students.


Head,

Department of Zoology

