



Guru Vishwambharkrupa Bahuuddeshiya Shikshan Prasarak Mandal Lakkadjawalga's

SHIVNERI MAHAVIDYALAYA,

Shirur Anantpal, Dist. Latur- 413544
(NAAC Accredited B⁻ Grade with 2.54 (CGPA))

DEPARTMENT OF ENVIRONMENTAL SCIENCE

B.Sc-III (Sem-V)

**CERTIFICATE COURSE
IN
SOLID WASTE MANAGEMENT**

[Syllabus (W.e.f. June 2022)]

DEPARTMENT OF ENVIRONMENTAL SCIENCE

Certificate Course in Solid Waste Management

B. Sc. (Third Year) Semester-V

(w.e.f. Effective From- June -2022)

Solid Waste Management

Sem	Name of the Course	Instruction Hrs. / Week	Total Periods	Internal Evaluation	Marks of Semester Exam	Total Marks	Credits
V	Certificate Course in SWM	02	30	10	40	50	02*

DEPARTMENT OF ENVIRONMENTAL SCIENCE

Certificate Course in Solid Waste Management

B. Sc. (Third Year) Semester-V

(w.e.f. Effective From- June -2022)

Solid Waste Management

Marks: 50

Credits: 02

Lectures: 30

Preamble: Environmental science is multidisciplinary subject, various areas are there where students can serve for nature and society, the certificate courses can provide the specific and scientific knowledge in environmental science. The course will help to assess prior basic knowledge at U.G. level. The main aim of the certificate course is to orient and train the students in wide range of environmental aspects.

Course Objectives: The main objective of course is to improve the awareness and skills of the students with modern techniques of collection, transportations and analysis of solid waste materials for production of organic manure and research activities. Use of instruments and their general maintenance, interpretation of analytical data and formulation of reports/recommendations

Course Contents:

Unit I: (10)

Definition of solid waste, types and sources, classification of solid waste. Solid waste Generation, collection, transportation, disposal methods. Quantification study of solid waste

Unit II: (10)

Introduction, characteristics of solid wastes, composition study, problems associated with waste management, effect of solid waste pollution on human health: leachate, groundwater contamination, vector borne diseases, odor, nuisance etc.

Unit-III: (10)

Introduction to solid waste disposal methods; Introduction to vermiculture, definition, meaning, history, the species of earthworms; local species of earthworms, choosing right and useful earthworm, economic important, their value in maintenance of soil status. Role of earthworms in production of organic fertilizers, what are the environmental factors requires

Learning outcomes: At the end of the course, student should be –

1. Able to identify and analyze the problems associated with the solid waste.
 2. Able to prepare a study report on material learned.
 3. Able to use the skill to mitigate the issue raised due to solid waste
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Books recommended:

1. Verms & Vermitechnology by Arvind Kumar, A. P. H. Pub., New Delhi-110002.
2. Earthworms-Vermiculture & Vermicomposting by R. K. Bhatnagar & R. K. Palta, Kalyani Pub, New Delhi, Kolkata, Hyderabad.
3. A hand book of organic farming by A. K. Sharma, Agrobios (India), Jodhpur
4. A handbook of soil, fertilizer and manure by P. K. Gupta, Agrobios (India), Jodhpur
5. Organic farming in India-problems and practice by U. Thapa and P. Tripathy, Agro Pub. Academy, Udaipur.
6. Organic Farming for sustainable agriculture by A. K. Dahama, Agrobios (India), Jodhpur.
7. Solid Waste Management : Amul Late & Mahadeo Mule (Lambert Academic Publishing, Mauritius, 2020

SHIVNERI MAHAVIDYALAYA, SHIRUR ANANTPAL, DIST. LATUR

DEPARTMENT OF ENVIRONMENTAL SCIENCE

CERTIFICATE COURSE IN SOLID WASTE MANAGEMENT

Academic Year 2023-24

Class: B. Sc. III Year (Sem-V)

List of Enrolled Students

Sr. No.	Name of Student
1.	Bagwan Sohef Nawab
2.	Sayyed Fardin Immamudin
3.	Ghante Anil Gangaram
4.	Gumme Neha Gopal
5.	Kamble S.G.
6.	Madle P.A.
7.	Pathan J. A.
8.	Shinde S.S.
9.	Survase R. B.


DR. S. S. MURKHE
Dept. of Env. Science,
Shivneri Mahavidyalaya,
Shirur Anantpal, Dist. Latour

Guru Vishwambharkrupa Bahuuddeshiya Shikshan Prasarak Mandal Lakkadjawalga's

SHIVNERI MAHAVIDYALAYA,
Shirur Anantpal, Dist. Latur- 413544



CERTIFICATE

This is to certify that, **Mr./Miss. BAGWAN SOHEF NAWAB** having successfully completed the **Certificate Course in Solid Waste Management** conducted by **Department of Environmental Science** during the academic year **2023-2024**.

Hence Certified.

Date: 04.01.2024

H.O.D.

DR. V. S. NIJKE
Head Dept. of Full Time,
Shivneri Mahavidyalaya,
Shirur Anantpal, Dist. Latur

Principal

PRINCIPAL
Shivneri Mahavidyalaya
(Arts, Commerce & Science)
Shirur Anantpal, Dist. Latur(M.S.)

Guru Vishwambharkrupa Bahuuddeshiya Shikshan Prasarak Mandal Lakkadjawalga's

SHIVNERI MAHAVIDYALAYA,
Shirur Anantpal, Dist. Latur- 413544




CERTIFICATE

This is to certify that, **Mr./Miss. SAYYED FARDIN IMMAMUDIN** having successfully completed the **Certificate Course in Solid Waste Management** conducted by **Department of Environmental Science** during the academic year 2023-24.

Hence Certified.

Date: 04.01.2024

H.O.D.


DR. S. M. MUMKAR
Head Dept. of E. & Science,
Shivneri Mahavidyalaya,
Shirur Anantpal, Dist. Latur


Principal

PRINCIPAL
Shivneri Mahavidyalaya
(Arts, Commerce & Science)
Shirur Anantpal, Dist. Latur (M.S.)

Guru Vishwambharkrupa Bahuuddeshiya Shikshan Prasarak Mandal Lakkadjawalga's

SHIVNERI MAHAVIDYALAYA,
Shirur Anantpal, Dist. Latur- 413544



CERTIFICATE

This is to certify that, **Mr./Miss. GHANTE ANIL GANGARAM** having successfully completed the **Certificate Course in Solid Waste Management** conducted by **Department of Environmental Science** during the academic year **2023-24**.

Hence Certified.

Date: 04.01.2024

H.O.D.

DR. V. S. KURKE
Head Dept. of Env. Science,
Shivneri Mahavidyalaya,
Shirur Anantpal, Dist. Latur


Principal

PRINCIPAL
Shivneri Mahavidyalaya
(Arts, Commerce & Science)
Shirur Anantpal, Dist. Latur (M.S.)

Guru Vishwambharkrupa Bahuuddeshiya Shikshan Prasarak Mandal Lakkadjawaiga's

SHIVNERI MAHAVIDYALAYA,
Shirur Anantpal, Dist. Latur- 413544



CERTIFICATE

This is to certify that, Mr./Miss. **GUMME NEHA GOPAL** having successfully completed the **Certificate Course in Solid Waste Management** conducted by **Department of Environmental Science** during the academic year **2023-24**.

Hence Certified.

Date: 04.01.2024

H.O.D.

[Signature]
DR. V. S. MURKE
Head Dept. of Env. Science,
Shivneri Mahavidyalaya,
Shirur Anantpal, Dist. Latur

[Signature]
Principal

PRINCIPAL
Shivneri Mahavidyalaya
(Arts, Commerce & Science)
Shirur Anantpal, Dist. Latur (M.S.)

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SHIVNERI MAHAVIDYALAYA,
Shirur Anantpal, Dist. Latur- 413544



CERTIFICATE

This is to certify that, **Mr./Miss. Kamble S.G.** having successfully completed the **Certificate Course in Solid Waste Management** conducted by Department of Environmental Science during the academic year **2023-24..**

Hence Certified.

Date: 24.01.2024

H.O.D.

DR. V. M. MOKKE
Head Dept. Of Env. Science,
Shivneri Mahavidyalaya,
Shirur Anantpal, Dist. Latur

Principal

PRINCIPAL
Shivneri Mahavidyalaya
(Arts, Commerce & Science)
Shirur Anantpal, Dist. Latur(M.S.)

Guru Vishwambharkrupa Bahuuddeshiya Shikshan Prasarak Mandal Lakkadjawalga's

SHIVNERI MAHAVIDYALAYA,

Shirur Anantpal, Dist. Latur- 413544



CERTIFICATE

This is to certify that, **Mr./Miss. Madle P.A.** having successfully completed the **Certificate Course in Solid Waste Management** conducted by **Department of Environmental Science** during the academic year **2023-24..**

Hence Certified.

Date: *04.01.2024*

H.O.D.

DR. V. M. MURKE
Head Dept. of Env. Science,
Shivneri Mahavidyalaya,
Shirur Anantpal, Dist. Latur

Principal

PRINCIPAL
Shivneri Mahavidyalaya
(Arts, Commerce & Science)
Shirur Anantpal, Dist. Latur(M.S.)

Guru Vishwambharkrupa Bahuuddeshiya Shikshan Prasarak Mandal Lakkadjawalga's

SHIVNERI MAHAVIDYALAYA,
Shirur Anantpal, Dist. Latur- 413544



CERTIFICATE

This is to certify that, Mr./Miss **Shinde S.S.** having successfully completed the **Certificate Course in Solid Waste Management** conducted by **Department of Environmental Science** during the academic year **2022-23**.

Hence Certified.

Date: 04.01.2024

H.O.D.

DR. K. N. NURKE
Head Dept. Of Env. Science,
Shivneri Mahavidyalaya,
Shirur Anantpal, Dist. Latur

Principal

PRINCIPAL
Shivneri Mahavidyalaya
(Arts, Commerce & Science)
Shirur Anantpal, Dist. Latur(M.S.)

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SHIVNERI MAHAVIDYALAYA,
Shirur Anantpal, Dist. Latur- 413544



CERTIFICATE

This is to certify that, Mr./Miss **Survase R. B.** having successfully completed the **Certificate Course** in **Solid Waste Management** conducted by **Department of Environmental Science** during the academic year **2023-24.**

Hence Certified.

Date: 04.01.2024.

H.O.D.

D. S. P. MURKAR
Head Dept. Of E.S. Science,
Shivneri Mahavidyalaya,
Shirur Anantpal, Dist. Latur

Principal

PRINCIPAL
Shivneri Mahavidyalaya
Arts, Commerce & Science)
Shirur Anantpal, Dist. Latur(M.S.)