

## **1.2.2 Number of Add on / Certificate programs offered during the session 2022-2023**


1. Certificate Course in Vermiculture
2. Certificate Course in Mushroom Culture
3. Certificate Course in Biodiveristy  
Conservation and Management
4. Certificate Course in Waste Management

## **1.2.2 Number of Add on / Certificate programs offered during the session 2022-2023**

- 1. Certificate Course in Vermiculture**
- 2. Certificate Course in Mushroom Culture**
- 3. Certificate Course in Biodiversity  
Conservation and Management**
- 4. Certificate Course in Waste management**

1.2.2 Number of Add on /Certificate programs offered during the session 2022-23 (10)

Name of Add on /Certificate programs offered	Course Code (if any)	Year of offering	No. of times offered during the same year	Duration of course	Number of students enrolled in the year	Number of Students completing the course in the year
1. Vermiculture	Nil	2022-2023	1	03 Months	12	12
2. Mashroom culture	Nil	2022-2023	1	03 Months	21	21
3. Biodiversity Conservation and Management	Nil	2022-2023	1	03 Months	25	25
4. Waste Management	Nil	2022-2023	1	03 Months	10	10

  
**Dr. L.S. Ladke**  
 PRINCIPAL  
 N.S. Science & Arts College  
 Bhadrawati, Dist-Chandrapur

**1. Certificate Course in Vermiculture Broucher,  
Syllabus, Admitted Students and Program**

**Nilkanthrao Shinde Science & Arts College  
Bhadrawati, Dist. Chandrapur (MS)  
DEPARTMENT OF ZOOLOGY**

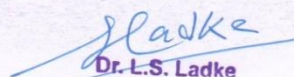


**Certificate Course In Vermiculture  
(Duration- Three Month)**

**Session: 2022-23**

**Dr. S. R. Sitre  
Co- Ordinator  
Department of Zoology**

**Dr. L. S. Ladke  
Principal**

  
**Dr. L. S. Ladke  
PRINCIPAL  
N.S. Science & Arts College  
Bhadrawati, Dist. Chandrapur**

NILKANTHRAO SHINDE SCIENCE AND ARTS COLLEGE, BHADRAWATI

DIST. CHANDRAPUR - 442902

## CERTIFICATE COURSE IN VERMICULTURE

### SYLLABUS

The Syllabus of this Certificate Course is based on theory and Practical Periods. The Written examination based on this course will consist of theory paper of 100 marks.

#### Unit – I

- Vermiculture and Vermicomposting
- Earthworm Species for Vermicompost Production
- Identification of Earthworms
- Worm related Opportunities for Farmers- Potential Income Diversification- Sale of Vermicompost, Sale of Worms.

#### Unit –II

- Essential Things for Vermicompost Production
- Common Bedding Materials
- Common Worm Feed Stocks
- Moisture and Aeration in Vermicompost Production
- Vermicompost Pit Construction

#### Unit – III

- Other Important Parameters for Vermicompost Production and Vermiculture- PH, Salt Content, Urine Content.
- Methods of Harvesting Worms – Manual methods, Self Harvesting Methods
- The Value of Vermicompost –Ability to stimulate plant growth, Level of Beneficial Microorganisms, Level of Plant available nutrients, Ability to repel pests.

#### Unit – IV

- Calculating Rates of Reproduction
- Pests and Diseases of worms – Moles, Birds, Centipedes, Ants, Mites, Protein Poisoning of worms



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**PRINCIPAL**  
**N.S. Science & Arts College**  
**Bhadrawati, Dist-Chandrapur**

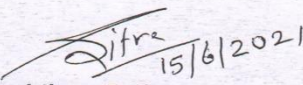
- Vermicompost Systems- Windrows, Top Feed Windrows, Beds or Bins, Flow Through Reactors.
- Vermicomposting and Water Quality Issues
- Climate Change Factors
- Nutrient Profile of Vermicompost.

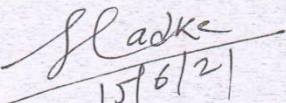
**Reference Books/ Manual :**

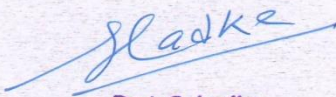
**Manual on Farm Vermicomposting and Vermiculture** - Glenn Munroe, Organic Agriculture Centre of Canada.

**Myers, Ruth (1969).** The ABC's of Earthworm Business, Shields Publications, Winsconsin, USA, 64 pp.

Date: 15/6/2021

  
15/6/2021  
**Dr. Shashikant R. Sitre**  
**DR. SHASHIKANT SITRE**  
Assistant Professor  
Department of Zoology,  
N. S. Science & Arts College  
Bhadrawati Dist. Chandrapur

  
15/6/21  
**Dr. L.S. Ladke**  
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**Dr. L.S. Ladke**  
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Bhadrawati, Dist-Chandrapur

NILKANTHRAO SHINDE SCIENCE AND ARTS COLLEGE, BHADRAWATI  
DISTRICT CHANDRAPUR

**CERTIFICATE COURSE IN VERMICULTURE (3 Months)**

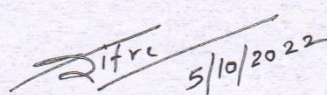
**ADMITTED STUDENTS**

**ACADEMIC SESSION : 2022-2023**

Sr.No.	Name of Student	Category
1.	Ms.Rutuja V.Kedar	ST
2.	Ms.Vidya D.Kamble	SC
3.	Ms.Ankita S.Barapatre	SBC
4.	Ms.Pooja A.Nibrad	OBC
5.	Ms.Priti B.Pote	OBC
6.	Ms.Dipti D.Mathankar	OBC
7.	Ms.Renuka P.Badkhal	OBC
8.	Ms.Minal G.Thengare	SC
9.	Ms.Samiksha B.Dongare	OBC
10.	Ms.Pallavi A.Kale	OBC
11.	Ms.Thamabai S.Pawade	OBC
12.	Ms.Jaya S.Warhate	OBC
13.	Ms.Rekha S.Giri	NT-C
14.	Ms.Minakshi B.Chide	NT-C
15.	Ms.Suvasini Kurekar	OBC


Date: 5/10/2022

Place: Bhadrawati

  
Dr. Shashikant Ramrao Sitre

Co-Ordinator

Certificate Course in Vermiculture

  
Dr. L.S. Ladke  
PRINCIPAL  
N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur

NILKANTHRAO SHINDE SCIENCE AND ARTS COLLEGE, BHADRAWATI  
DISTRICT - CHANDRAPUR

CERTIFICATE COURSE IN VERMICULTURE EXAMINATION (3 Months)

ACADEMIC SESSION : 2022-2023


QUESTION PAPER


Time: 3 Hours)

(Max.Marks: 100

- Note:**
1. All questions are compulsory.
  2. All questions carry equal marks.
  3. Draw well labelled diagrams wherever necessary.

Q.1	Write an Essay on Earthworm species used in Vermiculture.	10
Q.2	Elaborate on the common bedding materials used for Vermiculture.	10
Q.3	Elaborate on Common Worm Feed stocks	10
Q.4	Discuss about important parameters for vermiculture.	10
Q.5	Elaborate on Pests and Diseases of Compost Worms.	10
Q.6	Write a note on Static Pile Windrows.	10
Q.7	Write an account on Beds or Bins used in Vermiculture.	10
Q.8	Write a note on Flow Through reactors	10
Q.9	Elaborate on Self harvesting Method of Vermicomposting	10
Q.10.	Write an account on Value of the Vermicompost.	10

  
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Bhadrawati, Dist-Chandrapur

  
Dr. Shashikant Sitre  
- Co-ordinator -



NILKANTHRAO SHINDE SCIENCE AND ARTS COLLEGE, BHADRAWATI  
DISTRICT CHANDRAPUR

**CERTIFICATE COURSE IN VERMICULTURE (3 Months)**

**RESULT OF WRITTEN EXAMINATION**

**ACADEMIC SESSION :2022-2023**

Sr.No.	Name of Student	Marks Obtained Out of 100
1.	Ms.RutujaV.Kedar	70
2.	Ms.VidyaD.Kamble	90
3.	Ms.AnkitaS.Barapatre	80
4.	Ms.PoojaA.Nibrad	90
5.	Ms.PritiB.Pote	85
6.	Ms.DiptiD.Mathankar	91
7.	Ms.RenukaP.Badkhal	89
8.	Ms.MinalG.Thengare	90
9.	Ms.SamikshaB.Dongare	79
10.	Ms.PallaviA.Kale	82
11.	Ms.ThamabaiS.Pawade	81
12.	Ms.JayaS.Warhate	80
13.	Ms.RekhaS.Giri	79
14.	Ms.MinakshiB.Chide	78
15.	Ms.SuvasiniKurekar	76

Date: 10-03-2023

Place:Co-Ordinator

  
Dr. Shashikant Ramrao Sitre

Certificate Course in Vermiculture

  
Dr. L.S. Ladke  
PRINCIPAL  
N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur

Bhadrawati Shikshan Sanstha, Bhadrawati's

# **NILKANTHRAO SHINDE SCIENCE & ARTS COLLEGE**

**Bhadrawati, District Chandrapur - 442902**

Accredited "B" grade by NAAC Bangalore (3rd Cycle) (CGPA : 2.58)

Permanently Affiliated to Gondwana University, Gadchiroli



## **"CERTIFICATE COURSE IN VERMICULTURE"**

This is to certify that Mr./Mrs./Ku. \_\_\_\_\_

\_\_\_\_\_ has successfully completed the "Certificate Course" in "Vermiculture"  
during the Academic Session \_\_\_\_\_.

**Dr. S. R. Sitre**  
Course Co-ordinator  
N. S. Science & Arts College,  
Bhadrawati

**Dr. L. S. Ladke**

**PRINCIPAL**

**Dr. N. V. Harve**  
Head, Deptt. of Zoology,  
N. S. Science & Arts College,  
Bhadrawati

**Dr. L. S. Ladke**  
Principal  
N. S. Science & Arts College,  
Bhadrawati

## 2. Certificate Course in Mushroom Culture

### Broucher, Syllabus, Admitted Students and Program

NILKANTHRAO SHINDE SCIENCE AND ARTS COLLEGE,  
BHADRAWATI DIST. CHANDRAPUR

#### CERTIFICATE COURSE IN MUSHROOM CULTURE TECHNOLOGY

#### SYLLABUS

Certificate course will be of 100 marks, each unit contains 25 marks weightage. Certificate course contains four units which is given below

##### Unit-I

General characteristics of mushrooms, life history, Reproduction, spore dissemination, Growth, size, colors, color changes and surface textures, odors, taste, exudations, Bio-luminescence

##### Unit-II

Growing mushrooms, time for growing mushrooms, manure, composting, mushroom house and preparation of the beds, spawning, casing, watering, picking & packing.

##### Unit-III

Sterilization, methods of sterilization, Autoclave, Refrigerator, Raw material, economic importance of fungi, edible species, poisonous species,

##### Unit-IV

Economic importance of fungi, edible species, poisonous species, common edible mushrooms, kinds safe for the beginner, Recipes for cooking mushrooms.

#### Books Recommended for the study

- 1) A guide to the mushrooms by Loui's C.C Krieger published by Asiatic Publisheing House, Delhi(India) ISBN : 81-87067-13-6, Edition: 2007
- 2) The great encyclopedia of mushrooms by Konemann Verlagsge selschaft MBH Bonner str. 126, D-50968 colonge ISBN: 3-8290-17286 10987654321, Edition, 1999
- 3) Botany for Degree students-fungi by B.R. Vashishta and A.K. Sinha. published by S. Chand publication, New Delhi(India) ISBN: 81-219-2826-5, Edition (Reprint) 2008
- 4) The fungi by P.D. Sharma published by Rastogi publications, Meerut (India), 2<sup>nd</sup> Edition

*Ladke*  
Dr. L.S. Ladke  
PRINCIPAL

N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur

*Narasale*  
Narasale  
Head, coordination  
(Dr. P. N. Narasale)

*N. S. Wadhav*  
Head, department of Botany  
(Dr. N. S. Wadhav)

*Ladke*  
Dr. L.S. Ladke  
PRINCIPAL  
N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur

Nilkenthrao Shinde Science and Arts College,  
Bhadrawati, Dist-Chandrapur.

CERTIFICATE COURSE IN MUSHROOM CULTURE  
TECHNOLOGY

Academic Year - 2022-2023

DISTRIBUTION OF CERTIFICATES

- 1) Ms. Isha Vitthal Bodhale - I. Bodhale
- 2) Ms. Dolly Parambhars Singh - D. Singh
- 3) Ms. Gudiya Parambhars Singh - G. Singh
- 4) Ms. Prajwal Ganesh Pender - Prajwal
- 5) Ms. Achal Raju Kamsble - A. Kamsble
- 6) Ms. Arya Prashant Chide - Arya
- 7) Ms. Pallavi Balkrushna Pudarke - P. Pudarke
- 8) Ms. Sansiksha Masoti Basasherkar - S. Basasherkar
- 9) Ms. Pratiksha Masoti Awale - P. Awale
- 10) Ms. Pallavi Nareshrao Harane - P. N. Harane

ARN Nasare  
04/03/2023  
(Dr. Praveenkumar N. Nasare)  
Course-coordinator  
Mushroom Culture Technology

Sladke  
4/3/23  
Dr. L.S. Ladke  
PRINCIPAL  
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Bhadrawati, Dist-Chandrapur

Nilkantthrao Shinde Science and Arts College,  
Bhadrawati, Dist-Chandrapur.

CERTIFICATE COURSE IN MUSHROOM CULTURE  
TECHNOLOGY

Academic year-2022-2023

RESULT SHEET

Max. Marks-100

Sr. No.	Name of student	Marks Obtained	Result
1.	Ms. Isha Vitthal Bodhale	83	PASS
2.	Ms. Dolly Parabhans Singh	79	PASS
3.	Ms. Gudiya Parabhans Singh	81	PASS
4.	Ms. Prajwal Ganesh Pendur	78	PASS
5.	Ms. Achal Raju Kamble	82	PASS
6.	Ms. Asya Prashant Chide	83	PASS
7.	Ms. Pallani Balkrishna Pudarke	79	PASS
8.	Ms. Sansiksha Masoti Basashankar	77	PASS
9.	Ms. Prateksha Masoti Awale	75	PASS
10.	Ms. Pallani Narohrao Harane	80	PASS

MRPNVASE

03/03/2023

Course-co-ordinator  
Mushroom Culture Technology

Ladke  
Ladke 3/3/23  
Dr. L.S. Ladke  
PRINCIPAL  
N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur

Nilkenthrao Shinde Science and Arts College,  
Bhadrawati, Dist-Chandrapur.

In the academic year, 2022-2023, Certificate Course in Mushroom Culture Technology was conducted for the B.Sc.-V students. The course was started in December-2022 and ended in March-2023. Total 10 (Ten) students were participated in the certificate course in Mushroom Culture Technology. The students of this course learned about the techniques of Mushroom culture at laboratory level. They will be definitely benefited in future.

Place - Bhadrawati

Date - 05/03/2023

(Dr. Praveenkumar N. Nasare)  
Course-coordinator  
Mushroom Culture Technology

Ladke  
5/3/23  
Dr. L.S. Ladke  
PRINCIPAL  
N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur

Ladke  
Dr. L.S. Ladke  
PRINCIPAL  
N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur

Jitkanta Rao Shinde Science and Arts College, Bhadrawati  
CERTIFICATE COURSE IN MUSHROOM CULTURE  
TECHNOLOGY [1]

Academic year: 2022-2023

QUESTION PAPER

Time - 3hrs

Max. Marks - 100

Note:- All questions are compulsory.

1) The edible fleshy or gilled fungi are called

as \_\_\_\_\_

- a) Mushrooms      b) poisonous fungi  
c) Toad stools      d) None of the above

2) The beds for cultivation of mushroom contain substratum of compost rich in \_\_\_\_\_ compound.

- a) Nitrogenous      b) Ammonium sulphate  
c) Muratry      d) No of the above

3) The basidiospores produced in agaricus are \_\_\_\_\_

- a) Haploid      b) Heterotrope  
c) Diploid      d) None of the above

4) Eumycetes are classified into \_\_\_\_\_ categories.

- a) 1      b) 4      c) 3      d) 2

5) The order agaricales includes ~~more than~~ 4,000 species placed under above \_\_\_\_\_

- a) 200      b) 197      c) 187      d) 246

*slavks*  
Dr. L.S. Ladke  
PRINCIPAL  
N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur.

- 6) The mushroom contains \_\_\_\_\_ percent protein and amino acid.
- a) 4-7 percent      b) 3-6 percent  
c) 5-7 percent      d) 7-8 percent
- 7) \_\_\_\_\_ is saprophytes and grows in the open field grass lands and in soil in cellulose and lignin materials
- a) Agaricus      b) Polyporus  
c) Cystopus      d) None of the above
- 8) The mushroom research laboratory is located at \_\_\_\_\_ in Himachal Pradesh.
- a) Solan      b) Kullu  
c) Dharmshala      d) Manali
- 9) At solan, the mushrooms are cultivated in chopped \_\_\_\_\_ and composted.
- ~~10~~ a) Paddy straw      b) Barley straw  
c) wheat straw      d) None of the above
- 10) At solan, technique developed for raising \_\_\_\_\_ mushrooms.
- a) white button and oyster mushroom  
b) Button mushroom      c) Toad stool  
d) None of the above



The optimum temperature required during the mushroom spawn growth is \_\_\_\_\_

- a) 35-37°C
- b) 25-28°C
- c) 42-47°C
- d) 30-35°C

12) The branded product derived from *Agaricus bisporus* for food purpose is named as \_\_\_\_\_.

- a) Zuccato
- b) Muccato
- c) Phuccato
- d) Deccato

13) The nutritional value of oysters (*Aburiger*) is reported to be \_\_\_\_\_ than button mushrooms.

- a) Less
- b) More
- c) Equal
- d) None of the above

14) Sterilization is a process in which all the micro-organisms killed at \_\_\_\_\_.

- a) 100°C
- b) 35°C
- c) 90°C
- d) None of the above

15) Some mushroom have the habit of growing in circles is called as \_\_\_\_\_.

- a) Fairy rings
- b) Puff rings
- c) Dairy rings
- d) None of the above

16) The preservation of Mushroom accomplished + either by drawing or placing them in alcohol \_\_\_\_\_.

- a) Formaldehyde
- b) Acetaldehyde

Dr. L.S. Ladke  
 PRINCIPAL  
 N.S. Science & Arts College  
 Bhamburda, Dist. Chandrapur

17) A single species of meadow Mushroom Psalliota campestris produces \_\_\_\_\_ spores.

- a) 16,000,000,000      b) 14,000,000,000  
c) 13,000,000,000      d) 12,000,000,000

18) Amanita caesaria is a \_\_\_\_\_ Mushroom

- a) Orange colored      b) yellow colored  
c) Black colored      d) Green colored

19) \_\_\_\_\_ has the horrible odor

- a) Hygrophorus mephurcase  
b) Russula xerampellina  
c) Amanita viscosa  
d) Mycena alcalina

20) Psalliota subrufesens is a \_\_\_\_\_ Mushroom.

- a) Bitter      b) Sour  
c) Pungent      d) Sweet

21) Brailed Mushroom are prepared by the \_\_\_\_\_ Mushroom species.

- a) Lepida procosa      b) Malasimus  
c) Dolium...      d) ...

22) \_\_\_\_\_ Mushroom is used for preparing Mushroom salad with French dressing.

- a) Polyporus sulphureus
- b) Marasmius
- c) Leactarius
- d) None of the above

23) \_\_\_\_\_ is used for Mushroom preservation.

- a) Refrigerator
- b) Tin box
- c) Frizer
- d) None of the above

24) Spores of the Mushroom is obtained by the tissue culture method developed by \_\_\_\_\_.

- a) Duggar
- b) Charlie
- c) Alexopoulos
- d) Mendel

25) Palmer in 1885, published a coloured figure of \_\_\_\_\_ an edible species.

- a) Boletus
- b) Volvaria
- c) Inocybe infid
- d) Parus stypiticus

\_\_\_\_\_ x \_\_\_\_\_ x \_\_\_\_\_ Sladke  
Dr. L.S. Ladke  
PRINCIPAL

~~Dr. Praveenkumar N. Nasale~~  
N.S. Science & Arts College  
Bhadrawati, Dist. Chandrapur  
(Dr. Praveenkumar N. Nasale)



Bhadrawati Shikshan Sanstha, Bhadrawati

## NILKANTHRAO SHINDE SCIENCE AND ARTS COLLEGE,

Institution of Higher Learning Research and specialized studies

Bhadrawati, Dist. - Chandrapur (M. S.) 442902

UGC 2 (f) and 12 (B) status

Accredited "B+ grade (Third Cycle - 2016) with CGPA - 2.58 by NAAC Bangalore



### CERTIFICATE COURSE IN MUSHROOM CULTURE TECHNOLOGY

## CERTIFICATE

This is to certify that Mr./Kú. Isha Vitthal Bodhale  
B.Sc. Sem-V has successfully completed certificate course in Mushroom Culture Technology  
in the academic Session 2022-2023

MRPNasare  
Course Co-ordinator  
(Dr. P. N. Nasare)

Nasare  
Head, Department of Botany  
(Dr. N. S. Wadhave)

Ladke  
Principal 3/3/23  
Dr. L. S. Ladke  
PRINCIPAL  
(Dr. L. S. Ladke)

N.S. Science & Arts College

**3. Certificate Course in Biodiversity  
Conservation and Management  
Broacher, Syllabus, Admitted Students and  
Program**

**Nilkanthrao Shinde Science & Arts College  
Bhadrawati, Dist. Chandrapur (MS)  
DEPARTMENT OF ZOOLOGY**



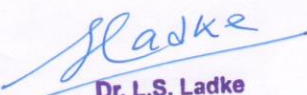
**Certificate Course In Biodiversity  
Conservation and Management**

**(Duration- Three Month)**

**Session: 2022-23**

**Dr. N. V. Harney  
Co- Ordinator  
Department of Zoology**

**Dr. L. S. Ladke  
Principal**

  
**Dr. L. S. Ladke  
PRINCIPAL  
N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur**

## सुचना

महाविद्यालयातील बी.एससी. भाग एक सेमिस्टर दोन च्या सर्टिफिकेट कोर्स इन बायोडायव्हर्सिटी कंजर्वेशन अँड मॅनेजमेंट (Certificate Course in Biodiversity Conservation and Management) मध्ये भाग घेतलेल्या विद्यार्थ्यांना सुचित करण्यात येते की वरील कोर्सची परीक्षा दिनांक 26 एप्रिल 2023 ला सकाळी ठीक अकरा वाजता खोली क्रमांक 45 मध्ये होणार असून सर्वांनी उपस्थित राहावे.

दिनांक - 12 एप्रिल 2023

भद्रावती

*Ladke*  
15-4-23

*Ladke*  
15/4/23

*Ladke*  
15-4-23

*Ladke*  
15/4/23

*Ladke*  
15/4/23  
प्राचार्य  
Dr. L.S. Ladke  
PRINCIPAL  
N.S. Science & Arts College  
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*Ladke*  
Dr. L.S. Ladke  
PRINCIPAL  
N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur

Nilkanthrao Shinde Science and Arts College, Bhadrawati

Session 2022-23

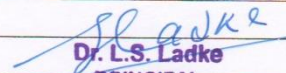
Certificate Course

in

Biodiversity Conservation and Management

Attendance Sheet

Sr. No.	Name of student	Signature
1.	Ragini Nikhade	Ragini
2.	Akansha Nikhade	Akankhade
3.	Sanskruiti Hamdapure	Sanskruiti
4.	Yash Giri	Yash
5.	Mansi Doye	Mansi
6.	Tanvi Salve	Tanvi
7.	Priyanshu Aglawe	Priyanshu
8.	Vansh Raut	Vansh
9.	Prajwal Pawar	Prajwal
10.	Khushi Wavarkar	Khushi
11.	Pranay Aagbattanwar	Pranay
12.	Mahesh Yergude	M.S.
13.	Sahil Tonge	Sahil
14.	Samruddhi Meshram	Samruddhi
15.	Anamika Chaudhary	Anamika
16.	Trupti Bagade	Trupti
17.	Achal Raut	Achal
18.	Snehal Balki	Snehal
19.	Vaishnavi Kundojwar	Vaishnavi
20.	Asmita Donge	Asmita
21.	Maheshwari Kale	Ku.m. S. Kale
22.	Vishvarupa Karlekar	Ku.v.v. Karlekar
23.	Sanjana Balki	Sanjana Balki
24.	Hemangi H. Shete	Hemangi
25.	Abhijeet A. Sen	Abhijeet

  
**Dr. L.S. Ladke**  
PRINCIPAL  
N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur

Nilkanthrao Shinde Science and Arts College, Bhadrawati

Session 2022-23

Certificate Course in Biodiversity Conservation and Management

Date – 26-04-2023      Time – 2 hours      Max. Marks – 40 Marks


**Practical Question Paper**

Q 1) Identification of economically important animals .....10Marks

Q 2) Identification of economically important plants .....10Marks

Q 3) Threatened and endangered animals and plants of India.....10 Marks

Q4) Submission of Field Visit Report .....10 Marks

  
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**Bhadrawati, Dist-Chandrapur**



Nilkanthrao Shinde Science and Arts College, Bhadrawati

Session 2022-23

Certificate Course in Biodiversity Conservation and Management

Date – 26-04-2023 Time – 2 hours Max. Marks – 60 Marks

Theory Question Paper

Note – 1) All questions are compulsory

2) All question carry equal marks


Q 1) Describe types, importance and conservation needs of biodiversity.....12 Marks

Q 2) Describe threatened and endangered animals and plants of India.....12 Marks

Q 3) Describe National Parks and Biosphere Reserve..... 12 Marks

Q4) Describe Conservation Policies and Law of Biodiversity  
Conservation.....12 Marks

Q 5) Write an essay on Biodiversity Conservation and Management.....12 Marks

  
**Dr. L.S. Ladke**  
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N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur



Bhadrawati Shikshan Sanstha, Bhadrawati's

**NILKANTHRAO SHINDE SCIENCE & ARTS COLLEGE**  
Bhadrawati, District Chandrapur - 442902


Accredited Grade "B++" by NAAC Bangalore (4th Cycle) (CGPA. 2.94)  
Permanently Affiliated to Gondawana University, Gadchiroli

In Collaboration with  
**Eco - Pro, Chandrapur**


**CERTIFICATE COURSE**  
**IN**  
**BIODIVERSITY CONSERVATION AND MANAGEMENT**


This is to certify that Mr./Mrs./Ku. Ragini Nikhade  
of B.Sc. I has successfully completed the **CERTIFICATE COURSE IN BIODIVERSITY**


**CONSERVATION AND MANAGEMENT** during the Academic Session 2022 - 2023 .

  
**Dr. N. S. Wadhave**  
Course Co-ordinator  
N. S. Science And Arts College,  
Bhadrawati

  
**Dr. N. V. Harney**  
Course Co-ordinator  
N. S. Science And Arts College,  
Bhadrawati

  
**Shri. Bandu S. Dhotre**  
Founder President  
Eco - Pro, Chandrapur

  
**Dr. L. S. Ladke**  
Principal  
N. S. Science And Arts College,  
Bhadrawati

  
**Dr. Vivek N. Shinde**  
President  
Bhadrawati Shikshan Sanstha,  
Bhadrawati



# ECO-PRO

(Ecological Protection Organisation)

Reg. Mah/379/2006(Chd.)

Founder President

Mr. Bandu S. Dhotre

National Youth Awardee

Main Office : 'Parikshram', 2nd floor, Bawis Chowk, Pathanpura Road, Chandrapur-442 402  
Mob. : 9370320746, Website : www.ecopro.org.in, E-mail : ecoprochd@gmail.com

Ref.No. : ECO-PRO/MSU/2022/02

Date : 27/9/2022

## Memorandum of Understanding(MoU) For Academic and Social Co-operation Between

**NilkanthraoShinde Science and Arts College, Bhadrawati, Dist. Chandrapur**  
And  
**Eco-Pro, Chandrapur**

NilkanthraoShinde Science and Arts College, Bhadrawati, Dist. Chandrapur and Eco-Pro, Chandrapur wish to initiate collaboration in the field of Environment Protection and Social activities leading to academic and social interaction.

**Both the parties have reached the following understanding.**

1. Environmental education and public awareness.
2. Biodiversity conservation and management.
3. Study tour, exchange and temporary assignment of personal from one party to other.
4. Joint organization of workshops, seminars, training on Social issues.
6. Wildlife conservation and awareness, Awareness and protection of archeological heritage.
8. Awareness about importance of health issues and blood donation
9. To inculcate good habits in youth to develops themselves for the cause of nations.
10. To visit the Eco-Pro office

This Memorandum of Understanding (MoU) is signed between Dr. L.S. Ladke, Principal, NilkanthraoShinde Science and Arts College, Bhadrawati, Dist. Chandrapur and Shri Badu S. Dhotre, Founder President, Eco-Pro, Chandrapur on dated for the period of five years.

*Ladke*  
27/9/22  
For NilkanthraoShinde Science and Arts College, Bhadrawati, Dist. Chandrapur  
Dr. L.S. Ladke  
Principal  
NilkanthraoShinde Science and Arts College  
Bhadrawati, Dist. Chandrapur

*Bandu*  
For Eco-Pro, Chandrapur  
Shri Badu S. Dhotre,  
Founder President,  
Eco-Pro, Chandrapur  
अध्यक्ष  
इको-प्रो संस्था, चंद्रपूर

*Ladke*  
Dr. L.S. Ladke  
PRINCIPAL  
NilkanthraoShinde Science & Arts College  
Bhadrawati, Dist. Chandrapur

“पर्यावरण संवर्धनाकरीता सर्वेव तत्पर...”



Bhadrawati Shikshan Sanstha, Bhadrawati's  
Reg No. 307 (C)

# NILKANTHRAO SHINDE SCIENCE & ARTS COLLEGE

Bhadrawati, Dist. Chandrapur (M.S.) 442902

Graduate, Post Graduate and Center for Higher Learning and Research  
Permanently Affiliated to Gondwana University, Gadchiroli



UGC 2 (f) & 12 (B) Status | An ISO 9001 : 2008 Certified College | NAAC Accredited 'B++' Grade (Fourth Cycle) with CGPA-2.94

**Dr. L. S. Ladke**

Principal

M. Sc. (Maths), M. Phil, Ph.D.

Member : Senate, Gondwana University, Gadchiroli

Member : Academic Council, Gondwana University, Gadchiroli

Member : Board of Examination and Evaluation

Chairman : BOS in Mathematics, Gondwana University, Gadchiroli

Ref. : NSSC/269/2022

Date : 27/09/2022

## Memorandum of Understanding (MoU)

For Academic and Social Co-operation

Between

**Nilkanthrao Shinde Science and Arts College, Bhadrawati, Dist. Chandrapur**

And

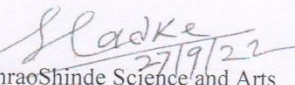
**Eco-Pro, Chandrapur**

Nilkanthrao Shinde Science and Arts College, Bhadrawati, Dist. Chandrapur and Eco-Pro, Chandrapur wish to initiate collaboration in the field of Environment Protection and Social activities leading to academic and social interaction.

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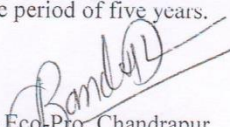
1. Environmental education and public awareness.
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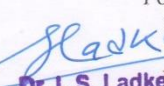
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For Nilkanthrao Shinde Science and Arts  
College, Bhadrawati, Dist. Chandrapur

Dr. L.S. Ladke  
Principal  
N.S. Science & Arts College

Nilkanthrao Shinde Science and Arts College,  
Bhadrawati, Dist. Chandrapur

  
For Eco-Pro, Chandrapur  
Shri Badu S. Dhotre,  
Founder President,  
Eco-Pro, Chandrapur

  
Dr. L.S. Ladke  
Principal  
N.S. Science & Arts College  
Bhadrawati, Dist. Chandrapur

अध्यक्ष  
इको प्रो संस्था, चंद्रपूर

**Nilkanthrao Shinde Science and Arts College, Bhadrawati,  
District- Chandrapur**

**Session 2022-2023**

**Certificate Course  
in  
Biodiversity Conservation and Management**

Nilkanthrao Shinde Science and Arts College, Bhadrawati, District- Chandrapur has launched the 3 months Certificate course in Biodiversity Conservation and Management for enabling the Graduate Degree Holders of any disciplines in acquiring expert knowledge in the fields of biodiversity, its types, importance, threatened to the biodiversity and different measures to protect biodiversity and its management.

**Duration:**

- 3 months. The certificate course starts with starting the session of every year.

**Eligibility:**

- Any discipline of running graduates and postgraduates.

**Participation:**

- Students /Research Scholars /Faculty Members and any interested persons are eligible to participate.

**Awards:**

- Certificate course in Biodiversity Conservation and Management will be awarded to all the successfully candidates by Nilkanthrao Shinde Science and Arts College, Bhadrawati, District- Chandrapur



**Dr. L.S. Ladke**  
PRINCIPAL  
N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur

**Evaluation:**

- Evaluation will be on the basis of theory, practical examination and field based submission of assignments.

**Certificate Course Fees:**

- Nil

**Number of seats:**

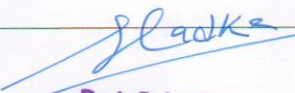
- 25

**Syllabus – Scheme of marking**

Sr. No.	Title	Weightages
1	Theory - Biodiversity Conservation and Management	60 Marks
2	Practical – Including submission	40 Marks

**Syllabus - Theory**

Unit	Title
I	<b>Biodiversity - Concept and definition</b> 1. Biodiversity: Basic concepts, importance and conservation needs, levels, uses, types of biodiversity, 2. Some biodiversity indicators. 3. Economic importance of biodiversity and wild life.
II	<b>Causes of Biodiversity</b> 1. Factors for decline of biological diversity. 2. Approaches for conservation of biological diversity. 3. Protection of wild flora, fauna and natural habitats. 4. Concept of threatened species. 5. Threatened and endangered animals and plants of India.
III	<b>Values of Biodiversity</b> 1. In-situ conservation, 2. Ex-situ conservation. 3. Wild life sanctuaries,

  
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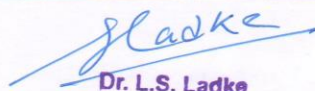
	4. National Parks and Biosphere Reserve. 5. Gene and germ-plasm banks.
IV	<b>Threats to Biodiversity</b> 1. Threats of biodiversity 2. International and national efforts to conserve biodiversity. 3. Biodiversity conventions and socio-cultural aspects of biodiversity. 4. Biotechnological needs for biodiversity conservation. 5. Traditional knowledge and biodiversity conservation. 6. IUCN Threatened Categories 7. Conservation Policies and Law

#### Syllabus – Practical

Sr. No.	Title
1	Identification of economically important animals and plants
2	Field work for familiarizing the local fauna and flora
3	Study tour of biodiversity rich zones of nearby forest
4	Visit to a local polluted site-Urban/Rural/Industrial/Agricultural.
5	Visit to a local area to document environmental assets river/forest/grassland/hill/mountain
6	Viva –Voce.

#### Syllabus – Submission work

Sr. No.	Title
1	Field work to nearby forest to study the biodiversity
2	Preparation and submission of Field Report

  
**Dr. L.S. Ladke**  
 PRINCIPAL  
 N.S. Science & Arts College  
 Bhadrawati, Dist-Chandrapur

**Books Recommended:**

1. Groom, M. J., Meffe, G. R. and C. R. Carroll. 2006. Principles of Conservation Biology. Sinauer Associates, Inc., USA.
2. Krishnamurthy, K. V. 2003. Textbook of Biodiversity. Science Publication.
3. Primack, R. 2006. Essentials of Conservation Biology. Sinauer Associates, Inc., USA.
4. Hambler, C. 2004. Conservation. Cambridge University Press.
5. Van Dyke, F. 2008. Conservation Biology Foundations, Concepts, Applications 2nd Edition, Springer.
6. Lockwood, M., Vorboys, G. and Kothari A. (Ed.). Managing Protected Areas
7. Stuart, C., Spalding, M and Jenkins, M. the world's Protected Areas: Status, Values and prospects in 21st century
8. Turner, M.G., Gardner, R. H. and O'Neill, R. V. Landscape ecology in theory and practice: pattern and process
9. Chapin, F.S. Pamel, A. M. and Vitousek, P Principles of terrestrial Ecosystem ecology
10. Perrow, M. R. and Davy, A. J. Handbook of ecological Restoration Vol I Principles of restoration

*L.S. Ladke*  
Dr. L.S. Ladke  
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Bhadrawati, Dist-Chandrapur



**Nilkanthrao Shinde Science and Arts College, Bhadrawati,  
Dist. Chandrapur  
Session 2022-23  
Certificate course in Biodiversity Conservation and  
Management**

**देशोन्नती** चंद्रपूर, बुधवार, दि. २८ सप्टेंबर २०२२ 

**निळकंठराव शिंदे महाविद्यालय भद्रावती व  
इको-प्रो चंद्रपूर यांच्यात सामंजस्य करार**

**देशोन्नती कुपसंकलन...**

**भद्रावती : स्वदेशी निळकंठराव शिंदे विद्यालय व इको-प्रो चंद्रपूर यांच्यात सामंजस्य करार करण्यात आला. या करारामुळे सर्टिफिकेट कोर्स इन बायोडायव्हर्सिटी कांजर्वेशन अँड मॅनेजमेंटचे वाटगत उद्घाटन करण्यात आले.**

चंद्रपूरची अखंडित कार्यक्रमाच्या अन्वयाधीनी भद्रावती शिक्षण संस्था भद्रावतीचे अध्यक्ष डॉ. विवेक शिंदे, उद्घाटक इको-प्रो चंद्रपूरचे संस्थापक अध्यक्ष बंडू पोले, कार्यक्रमाचे आभारप्रकाशनाचे डॉ.एल.एस. लडके, यांच्यात डॉ. मधु साठे आणि संदीप शिंदेने प्रमुखपणे उपस्थित होते.

कार्यक्रमाची मुख्यतांकरा मान्यवरांच्या मुख्यांशे प्रवेशिकांसाठी सविस्तर वृत्ते आणि भद्रावती शिक्षण संस्था भद्रावतीचे संस्थापक सचिव स्व. निळकंठराव शिंदे यांच्या प्रीतिपूर्वक पुष्पमाला अर्पण करून अभिवादन करण्यात आले. उपस्थित सर्व मान्यवरांचे पुष्पगुच्छ देऊन स्वागत करण्यात आले.

चंद्रपूरची महाविद्यालयाचे प्राचार्य डॉ. एल. एस. लडके यांनी आपल्या प्रस्तावित प्रस्ताव इको-प्रो चंद्रपूर यांच्याशी आपल्या सामंजस्य करार व मनाचे सुरु होत


**सर्टिफिकेट कोर्स इन बायोडायव्हर्सिटी कांजर्वेशन अँड मॅनेजमेंट याबद्दल सविस्तर माहिती दिली. या प्रकरणाचा अभ्यासक्रम सुरु होत असल्याची माहिती दिली. तसेच या अभ्यासक्रमाचे यत्न सुरु केले.**

इको-प्रो चंद्रपूरचे संस्थापक बंडू पोले यांचा महाविद्यालयाच्या वतीने असलेल्या सर्टिफिकेट कोर्स इन बायोडायव्हर्सिटी कांजर्वेशन अँड मॅनेजमेंट याबद्दल सविस्तर माहिती दिली. या प्रकरणाचा अभ्यासक्रम सुरु होत असल्याची माहिती दिली. तसेच या अभ्यासक्रमाचे यत्न सुरु केले.

इको-प्रो चंद्रपूरचे संस्थापक बंडू पोले यांचा महाविद्यालयाच्या वतीने आज आपण याचे परिणाम बघत असल्याचे म्हटले. तसेच त्यांनी केविलियेन्सद्वारे सर्व घटक कोर्स महत्त्वाचे आहेत. यावर बुद्धी विद्यार्थ्यांना सक्षम मार्गदर्शन केले. कार्यक्रमाचे अन्वय भद्रावती विद्यालय संस्था भद्रावतीचे अध्यक्ष डॉ. विवेक शिंदे यांनी जला प्रकरणाचा महत्त्वापूर्ण अभ्यासक्रम अन्वय महाविद्यालयात सुरु होत असल्याबद्दल आभार व्यक्त केला. या संधीचा सर्व विद्यार्थ्यांनी स्वागतार्थी व समाजासाठी उपयोग्य करून घ्यावा. आपण विद्यार्थ्यांच्या कल्याणासाठी सक्षम कार्य करू. कार्यक्रमाचे सुरु होण्यात या अभ्यासक्रमाचे सामर्थ्यक डॉ. डॉ. शंकर शिंदे तर आपण प्रदर्शन करणारे कार्यकर्ते आहोत असे म्हणून परीक्षापूर्वक काम होत आहे.

आज आपण याचे परिणाम बघत असल्याचे म्हटले. तसेच त्यांनी केविलियेन्सद्वारे सर्व घटक कोर्स महत्त्वाचे आहेत. यावर बुद्धी विद्यार्थ्यांना सक्षम मार्गदर्शन केले. कार्यक्रमाचे अन्वय भद्रावती विद्यालय संस्था भद्रावतीचे अध्यक्ष डॉ. विवेक शिंदे यांनी जला प्रकरणाचा महत्त्वापूर्ण अभ्यासक्रम अन्वय महाविद्यालयात सुरु होत असल्याबद्दल आभार व्यक्त केला.

**जांभू येथील ज्ञि ष हायस्कूल तथा कृषि प्रशिक्षण केंद्राच्या मंगळाचीनी भेट**

  
**Dr. L.S. Ladke**  
 PRINCIPAL  
 N.S. Science & Arts College  
 Bhadrawati, Dist.Chandrapur

निळकंठराव शिंदे विज्ञान व कला महाविद्यालयाचे इको -प्रो चंद्रपूर सोबत सामंजस्य करार व  
सर्टिफिकेट कोर्स इन बायोडायव्हर्सिटी कांजर्वेशन अँड मॅनेजमेंट चे उद्घाटन संपन्न

भद्रावती -स्थानिक नीलकंठराव शिंदे विज्ञान व कला महाविद्यालय व ईको -प्रो चंद्रपूर यांच्यासोबत नुकताच  
सामंजस्य करार करण्यात आला

या कार्यक्रमाचे अध्यक्ष भद्रावती शिक्षण संस्था भद्रावती चे अध्यक्ष डॉ विवेक शिंदे, उद्घाटक इको -प्रो  
चंद्रपूरचे संस्थापक अध्यक्ष श्री बंडू धोतरे, डॉ. नथू वाढवे, श्री संदीप जीवने तसेच आयोजक प्राचार्य डॉ. एल एस लडके  
उपस्थित होते. या कार्यक्रमाची सुरुवात भद्रावती शिक्षण संस्था भद्रावतीचे संस्थापक सचिव स्व. निळकंठराव शिंदे व  
सावित्रीबाई फुले यांच्या प्रतिमेला माल्याअर्पण करून झाली.

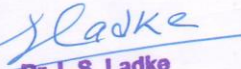
सर्वप्रथम उपस्थित सर्व मान्यवरांचे पुष्पगुच्छ देऊन स्वागत करण्यात आले व याप्रसंगी महाविद्यालयाचे प्राचार्य  
डॉ. एल एस लडके यांनी आपल्या प्रास्ताविकेतून इको-पो चंद्रपूर यांच्यासोबतच्या सामंजस्य करार व नव्याने सुरू होत  
असलेल्या सर्टिफिकेट कोर्स इन बायोडायव्हर्सिटी कांजर्वेशन अँड मॅनेजमेंट याबद्दल सविस्तर माहिती देत या प्रकारचा  
कोर्स हा सर्वप्रथम या महाविद्यालयात व विद्यापीठात सुरू होत आहे तसेच या कोर्स चे महत्व स्पष्ट केले.

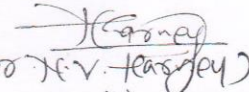
त्यानंतर इको- प्रो चंद्रपूरचे संस्थापक श्री बंडू धोतरे यांचे महाविद्यालयाच्या वतीने सन्मानचिन्ह व पुष्पगुच्छ  
देऊन सत्कार करण्यात आला व इको-प्रो चंद्रपूर व महाविद्यालया सोबत सामंजस्य करारावर सद्दा करून सामंजस्य  
करार करण्यात आला याप्रसंगी श्री बंडू धोतरे यांनी विद्यार्थ्यांना जैवविविधतेवर सखोल मार्गदर्शन करीत आपण  
पर्यावरणाला विसरत चाललो आहोत त्यामुळे पर्यावरणाचा न्हास होत आहे व आज आपण परिणाम पाहत आहोत तसेच  
त्यांनी जैवविविधतेमधील सर्व घटक कसे महत्त्वाचे आहेत यावर विद्यार्थ्यांना सखोल असे मार्गदर्शन केले.

कार्यक्रमाचे अध्यक्ष भद्रावती शिक्षण संस्था भद्रावती चे अध्यक्ष डॉ. विवेक शिंदे यांनी अशा प्रकारचा कोर्स  
आपल्या महाविद्यालयात सुरू होत आहे व त्याचा सर्व विद्यार्थ्यांनी स्वतःसाठी व समाजासाठी फायदा करून घ्यावा असे  
आवाहन केले तसेच आपण जीवन जगत असताना पर्यावरणाविषयी जागृत असणे आवश्यक आहे व त्यासाठी वेळ  
देण्याची सर्वांना आवाहन केले या कार्यक्रमाचे संचालन या कोर्सचे समन्वयक प्रा डॉ. नरेंद्र हरणे तर आभार प्रदर्शन सह  
समन्वयक प्रा डॉ. नथू वाढवे यांनी केले.

हा कार्यक्रम यशस्वी करण्याकरिता साक्षी कडवे, कल्याणी लांबवडे, मानसी कांबळे, आफरीन शेख, पल्लवी  
घाटे, प्रणय आगबत्तवार, मेहरा येरगुडे, साहिल टोंगे, प्राध्यापक शशिकांत शीत्रे, प्राध्यापक प्रवीण कुमार नासरे,  
प्राध्यापक संदीप प्रधान, श्री कुशाल मानकर, श्री शरद भावरकर तसेच सर्व शिक्षक व शिक्षक इतर कर्मचाऱ्यांनी अथक  
परिश्रम घेतले तसेच या कार्यक्रमाकरिता महाविद्यालयातील सर्व विद्यार्थी बहुसंख्येने उपस्थित होते.

Recd.  
9.4.23

  
Dr. L.S. Ladke  
PRINCIPAL  
N.S. Science & Arts College  
Bhadrawati, Dist.-Chandrapur

  
Dr. N.V. Harney  
Co-ordinator  
Dr. N.V. Harney  
Head  
Department of Zoology

## 4. Certificate Course in Waste Management

### Broacher, Syllabus, Admitted Students and Program

Nilkanthrao Shinde Science and Arts College,  
Bhadrawati Dist – Chandrapur



**ADMISSION OPEN FOR**  
**CERTIFICATE COURSE IN WASTE**  
**MANAGEMENT**

(IN ASSOCIATION WITH RAG-I UPCYCLING, CHANDRAPUR)

**SESSION 2022-2023**

**DURATION : 03 MONTHS**

**ELIGIBILITY: XII PASS**

**DR. G. R. BEDARE**

**PROF. S. H. SHRIRAME**

**CO-ORDINATOR**

**MOBILE NO. : 9921975747**

**DR. L. S. LADKE**


**PRINCIPAL**

**Dr. L.S. Ladke**  
**PRINCIPAL**  
**N.S. Science & Arts College**  
**Bhadrawati, Dist-Chandrapur**

NILKANTHRAO SHINDE SCIENCE AND ARTS COLLEGE, BHADRAWATI DIST-CHANDRAPUR  
CERTIFICATE COURSE IN WASTE MANAGEMENT  
EXAMINATION 2022-23

SR NO	NAME	THEORY	FIELD VISIT	PROJECT	TOTAL MARKS
1	VIBHA TATED	43	22	24	89
2	SUPRIYA BALPANE	40	22	23	85
3	AISHWARYA TIWARI	44	22	24	90
4	KHUSHI KARWADE	40	22	24	86
5	PRITI KAREKAR	41	22	22	85
6	GITIKA DURGE	40	22	21	83
7	RAJYASHREE DIXIT	40	22	22	84
8	PALLAVI KALE	41	22	23	86
9	ACHAL GIDGALWAR	42	22	22	86
10	TUMESHWARI JIWTODE	39	22	21	82
11	PRAJAKTA BODHANE	41	22	23	86
12	ANUSHKA JAWALE	44	22	24	90
13	MANSI MATTE	39	22	22	83
14	BHUMIKA BOBADE	42	22	23	87
15	NAMRATA LANJEWAR	42	22	21	85
16	DIVYA PIMPALKAR	41	22	23	86
17	GAYATRI SAH	38	22	21	81
18	KHUSHI PRADHAN	41	22	22	85
19	KOMAL JANGAPALLI	41	22	23	86
20	NITU PISDA	42	22	22	86
21	KRUTIKA BHOSKAR	38	22	21	81
22	ACHAL RUYARKAR	39	22	23	84
23	JANHAVI MANDANKAR	32	22	21	75
24	ANUSHRI ZURMURE	33	22	23	78
25	SAKSHI GOURKAR	39	22	21	82
26	PRIYA AMBILKAR	43	22	24	89

  
(Dr. G.R. Bedare)

  
**Dr. L.S. Ladke**  
PRINCIPAL  
N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur

College, Bhadravati Dist. Chandrapur  
 Session 2022-23  
 Certificate Course in Waste Management

Name	Sign
1) Vibha S. Tated	<u>VATED</u>
2) Supriya V. Balpane	<u>Supriya</u>
3) Aishwarya Tiwari	<u>Aishwarya</u>
4) Khushi Khoswade	<u>Khushi</u>
5) Priti V. Karekar	<u>Pkarakar</u>
6) Gitika K. Durge	<u>Gidurge</u>
7) Rajyashree S. Dixit	<u>Rdixit</u>
8) Pallavi S. Keele	<u>Keele</u>
9) Achal R. Jagalwat	<u>Ajagalwat</u>
10) Tumeshwari S. Jiwotada	<u>TJiwotada</u>
11) Prajakta N. Bodhane	<u>PNBodhane</u>
12) Anushka R. Jawade	<u>ARJawade</u>
13) Mansi B. Mathe	<u>Mansi</u>
14) Bhunika V. Bobade	<u>Bhuni</u>
15) Anamrta P. Lanjewar	<u>Anamrta</u>
16) Divya D. Pimpaller	<u>Divya</u>
17) Grayatri U. Sah	<u>Grayatri</u>
18) Khushi M. Pradhan	<u>Khushi</u>
19) Komal Jangapali	<u>Komal</u>
20) Nitu Pisdar	<u>Nitu</u>
21) Krutika Bhoskar	<u>Bhoskar</u>
22) Achal Ruyarkar	<u>ARuyarkar</u>
23) Jankavi Mandarkar	<u>Jmandarkar</u>
24) Anushri Zomure	<u>Anushri</u>
25) Sakshi Gahukar	<u>Sgahukar</u>
26) Priya Ambilkar	<u>Pambilkar</u>

Ladke  
 Dr. L. S. Ladke  
 PRINCIPAL  
 N.S. Science & Arts College  
 Bhadravati, Dist-Chandrapur.

Dr. G.R. Bedate

**MEMORANDUM OF UNDERSTANDING (MoU)**

BETWEEN

**Nilkanthrao Shinde Science & Arts College,  
Bhadrawati Distt: Chandrapur**

&

**RAG-I Upcycling, Chandrapur**

FOR

**SKILL DEVELOPMENT, TRAINING OF STUDENTS AND FACULTY  
AND JOINT COLLABORATION THROUGH INDUSTRY RELEVANT  
PROJECTS AND CONSULTANCY SERVICES**



**Dr. L.S. Ladke**  
PRINCIPAL  
N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur

## MEMORANDUM OF UNDERSTANDING

This Memorandum of understanding (hereinafter called as the 'MoU') is entered into on this the 05<sup>th</sup> day of July, Two thousand and Twenty Two (2022), by and between by its **Principal, Nilkanthrao Shinde Science & Arts College, Bhadrawati** hereinafter referred as 'First Party', the institution which expression, unless excluded by or repugnant to the subject or context shall include its successors-in-office, administrators and assigns).


AND

**RAG -I UPCYCLING, Chandrapur** (hereinafter referred to as "Second Party", company which expression, unless excluded by or repugnant to the subject or context shall include its successors - in-office, administrators and assigns).

(First Party and Second Party are hereinafter jointly referred to as 'parties' and individually as 'party')

### WHEREAS:

- A) First Party is a Principal, **Nilkanthrao Shinde Science & Arts College, Bhadrawati**: is a leading educational institution in science and arts of the region and its various departments is entrusted with the responsibility of imparting education of students and upgrade their skill sets by using the facilities of its infrastructure facilities. The institute is also contributing to the rapidly growing technological knowledge and professional excellence. First Party & Second party believe that collaboration and co-operation between themselves will promote more effective use of each of their resources, and provide each of them with enhanced opportunities.

  
Dr. L.S. Ladke  
PRINCIPAL  
N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur

AND

Second Party **RAG -I UPCYCLING, Chandrapur** is a company of recycling of waste material and supplies different products from waste material in India. The objective of the company is upcycling of waste material.

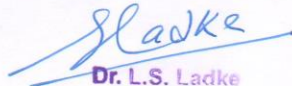
**NOW THEREFORE, IN CONSIDERATION OF THE MUTUAL PROMISES SET FORTH IN THIS MOU, THE PARTIES HERE TO AGREE AS FOLLOWS:**

**CLAUSE I CO-OPERATION**

- 1.1 Both Parties are united by common interests and objectives, and they shall establish channels of communication and co-operation that will promote and advance their respective operations within the Institution. The parties shall keep each other informed of potential opportunities and shall share all relevant educational information that may be relevant to secure additional opportunities for one another.
- 1.2 First Party and Second Party co-operation will facilitate effective utilization of the intellectual capabilities of the faculty specially department of Physics and Chemistry. First Party providing significant inputs to them in developing suitable teaching / skill enhancement systems, keeping in mind the needs of the industry, the Second Party.

**CLAUSE 2 SCOPE OF THE MoU**

- 2.1 The budding technicians from the institutions could play a key role in technological up-gradation, innovation and competitiveness of an industry. Both parties believe that close co-operation between the two would be of major benefit

  
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**Dr. L.S. Ladke**  
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N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur

to the student community to enhance their skills and knowledge, without any prejudice to prevailing rules and regulations and without any disregard to any mechanism evolved and approved by the competent authorities of both parties. The areas of cooperation can be extended through mutual consent.

2.2 **Curriculum Design:** Second party will give valuable inputs to the First party in the latest technologies used in their institutions and accordingly customize the curriculum so that the students fit into the industrial scenario meaningfully.

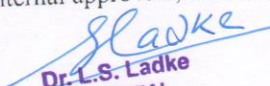
2.3 **Guest Lectures:** Second Party to extend the necessary support to deliver guest lecturers to the students of the First Party on the emerging technology trends in Design, Tooling, Material Testing and Quality Assurance.

2.4 **Faculty Development Programs:** Second Party to train the Faculties of First Party and vice versa as per the requirements. The mode of training will be in the form of conducting seminar, Workshops and Guest lectures. The second party would also be providing exposure to the faculty members of the first party.

2.5 **Skill Enhancement / Placement Assistance of Students:**

Second Party will actively engage in delivery of the training need of students of the First Party in order to bridge the skill gap and make them industry ready. The second party will also provide the necessary support and assistance into internships and placements of students of the first party. The second party will provide the skill training to the students of first party in the collection of waste material.

2.6 Both Parties to obtain all internal approvals, consents, permissions, of

  
Dr. L.S. Ladke  
PRINCIPAL  
N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur

whatsoever nature required for offering the programmes on the terms specified herein.

2.7 There is no financial commitment on the part of the **Nilkanthrao Shinde Science & Arts College, Bhadrawati** the First party or the second party **RAG - I UPCYCLING, Chandrapur** to take up any programme mentioned in the MoU.

### **CLAUSE 3 VALIDITY**

3.1 This Agreement will be valid for a period of five years (05) until it is expressly terminated by either Party on mutually agreed terms, during which period **RAG -I UPCYCLING, Chandrapur** the Second Party, as the case may be, will take effective steps for implementation of this MOU. Any act on the part of **Ragi Upcycling, Chandrapur** the Second Party after termination of this Agreement by way of communication, correspondence etc., shall not be construed as an extension of this MoU.

3.2 Both Parties may terminate this MoU upon 30 calendar days' notice in writing. In the event of Termination, both parties have to discharge their obligations.

3.3 The skill training of the students will be organized **RAG -I UPCYCLING, Chandrapur** in various areas as required the First party for the better employment of the students.

3.4 Students can undertake their project work at **RAG -I UPCYCLING, Chandrapur** in the upcycling of waste material.

  
**Dr. L.S. Ladke**  
**PRINCIPAL**  
**N.S. Science & Arts College**  
**Bhadrawati, Dist-Chandrapur**

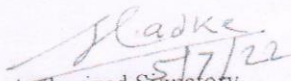
**CLAUSE 4 RELATIONSHIP BETWEEN THE PARTIES**


4.1 It is expressly agreed that **Principal, Nilkanthrao Shinde Science & Arts College, Bhadrawati** and **RAG -I UPCYCLING, Chandrapur** are acting under this MoU as independent contractors, and the relationship established under this MoU shall not be construed as a partnership. Neither Party is authorized to use the other party's name in any way, to make any representations or create any obligation or liability, expressed or implied, on behalf of the other Party, without the prior written consent of the other Party. Neither Party shall have, nor represent itself as having, any authority under the terms of this MoU to make agreements of any kind in the name of or binding upon the other party, to pledge the other party's credit or to extend credit on behalf of the other Party.

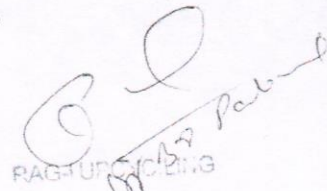
Any divergence or difference derived from the interpretation or application of the MoU shall be resolved by arbitration between the parties as per the Arbitration Act, 1996. The place of the arbitration shall be at District Head Quarters of the First Party. This undertaking is to be construed in accordance with Indian Law with exclusive jurisdiction in the Chandrapur District court.

**AGREED:**

For MoU Between **Principal, Nilkanthrao Shinde Science & Arts College, Bhadrawati** and **RAG -I UPCYCLING, Chandrapur.**


  
Authorized Signatory  
**Dr. L.S. Ladke**  
PRINCIPAL  
N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur

  
Authorized Signatory  
PROPRIETOR  
**Dr. L.S. Ladke**  
PRINCIPAL  
N.S. Science & Arts College  
Bhadrawati, Dist-Chandrapur


  
RAG-I UPCYCLING

Name of Institution	Name of Institution
Address:- <b>Principal, Nilkanthrao Shinde Science &amp; Arts College, Bhadrawati dist-chandrapur 442902</b>	Address:- <b>RAG -I UPCYCLING, C/O Paliwal Hospital, Mahakali Ward, Chandrapur 442402</b>
Contact details	Contact details
E-mail:- principalnscollege@gmail.com	E-mail:- bdpaliwal2@gmail.com
Web:-www.nscollge.ac.in	--

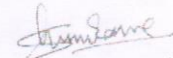
Witness 1

  
CDR. Gajendra R. Bhalerao

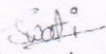
Witness 2

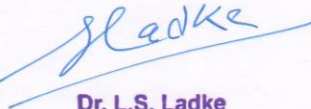
  
Abhilash Parihar

Witness 3

  
Prof. Sachin H. Shrivastava

Witness 4

  
Swati Ushkamalla



**Dr. L.S. Ladke**  
**PRINCIPAL**  
**N.S. Science & Arts College**  
**Bhadrawati, Dist-Chandrapur**



Bhadravati Shikshan Sanstha, Bhadravati's

# NILKANTHRAO SHINDE SCIENCE & ARTS COLLEGE

Bhadravati, District Chandrapur - 442902


Accredited Grade "B++" by NAAC Bangalore (4th Cycle) (CGPA. 2.94)  
Permanently Affiliated to Gondwana University, Gadchiroli

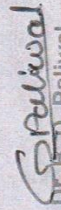
In Collaboration with  
**RAG - I Upcycling, Chandrapur**

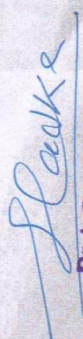
## CERTIFICATE COURSE IN WASTE MANAGEMENT

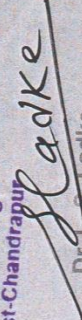
This is to certify that Mr./Mrs./Ku. Rajyashree Sunil Dixit  
of B.Sc. III year

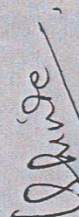
\_\_\_\_\_ has successfully completed the **CERTIFICATE COURSE IN WASTE MANAGEMENT**  
during the Academic Session 2022-2023

  
Dr. G. R. Bedare  
Course Co-ordinator  
N. S. Science And Arts College,  
Bhadravati

  
Dr. B. D. Paliwal  
Founder  
RAG - I Upcycling,  
Chandrapur

  
Dr. L. S. Ladke  
PRINCIPAL  
N.S. Science & Arts College  
Bhadravati, Dist-Chandrapur

  
Dr. L. S. Ladke  
Principal  
N. S. Science And Arts College,  
Bhadravati

  
Dr. Vivek N. Shinde  
President  
Bhadravati Shikshan Sanstha,  
Bhadravati

Certificate Course in Waste Management

देशोन्नती

व

चंद्रपूर, रविवार, दि. २१ ऑगस्ट २०२२



भद्रावतीत 'कोर्स इन वेस्ट मॅनेजमेंट' चे थाटात उद्घाटन

निळकंठराव शिंदे महाविद्यालय व रॅंग-१ अप-सायकलिंगचा संयुक्त उपक्रम

पोस्त्री वृत्तसंकलन...

भद्रावती : भारतीय स्वातंत्र्याच्या अमृत महोत्सवी वर्षाचे औचित्य साधून स्वातंत्र्यदिनाच्या शुभ पार्वपर स्थानिक निळकंठराव शिंदे विद्यालय व कला महाविद्यालयात नुकतेच कोर्स इन वेस्ट मॅनेजमेंटचे थाटात उद्घाटन करण्यात आले. याप्रसंगी सदर महाविद्यालय आणि चंद्रपूरच्या रॅंग-१ अपसायकलिंग पाठशाळा सामंजस्य करार करण्यात आला. याप्रसंगी आयोजित कार्यक्रमाच्या अध्यक्षस्थानी भद्रावती शिक्षण संस्था भद्रावतीचे अध्यक्ष डॉ. विवेक शिंदे तर उद्घाटक म्हणून चंद्रपूरच्या रॅंग-१ अपसायकलिंगचे संस्थापक डॉ. बी.डी. पालीवाल, प्रमुख पाहुणे डॉ. प्रिया शिंदे आणि संस्थेचे सहसचिव डॉ. विशाल शिंदे तसेच कार्यक्रमाचे आयोजक प्राचार्य डॉ.



एल. एस. लडके यांची प्रमुख उपस्थिती होती. भद्रावती शिक्षण संस्था भद्रावतीचे संस्थापक सचिव स्व. निळकंठराव शिंदे यांच्या प्रतिमेला पुष्पमाला अर्पण करून कार्यक्रमाची सुरुवात करण्यात आली. विद्या लाले व सुश्री खरचहे यांनी सुमधूर स्वागत गीत सादर करून शब्द सुमनाने उपस्थित मान्यवरांचे स्वागत केले. प्राचार्य डॉ. एल. एस. लडके यांनी प्रास्ताविकपर विचार व्यक्त करताना सामंजस्य करार व नव्याने सुरू होत असलेल्या सर्टिफिकेट कोर्स इन वेस्ट मॅनेजमेंट पाबडल सविस्तर माहिती दिली. या प्रकारचा कोर्स हा सर्वप्रथम भद्रावती शहर, जिल्ह्यात व विद्यार्थीशाळा सुध्दा केवळ आमच्याच महाविद्यालयात सुरू होत असल्याचे सांगितले. सोबतच वेस्ट मॅनेजमेंट वर सविस्तर मार्गदर्शन केले. याप्रसंगी कार्यक्रमाच्या प्रमुख पाहुण्या डॉ. प्रिया शिंदे यांनी वेस्ट मॅनेजमेंट म्हणून

बांगल्या गोष्टीची निर्मिती होऊ शकते. पावर प्रकाश टाकला. संस्थेचे सहसचिव प्रा. डॉ. विशाल शिंदे यांनी भद्रावती येथील बुधवार आठवडी बाजार संपल्यानंतर एक व्यक्ती सहकाय माजीपाला गोळा करून त्यावर प्रक्रिया करून लो शेंडी व मेडी यांच्यासाठी अन्न म्हणून वापर करतो. पावरचा आणता वैपत्तिक अनुभव सर्वांना सांगितला. चंद्रपूरच्या रॅंग-१ अपसायकलिंगचे संस्थापक डॉ. बी. डी. पालीवाल यांचा संस्था व महाविद्यालयाच्या वतीने शाल, शीकळ, सन्मानविन्ध देऊन सत्कार करण्यात आला. याप्रसंगी डॉ. पालीवाल यांनी आज जगात सर्वात जास्त प्रदूषण करणारी वस्तू म्हणजे प्लास्टिक होय, परंतु पाच प्लास्टिक पासून पुन्हा रिसायकलिंग करून नव्याने समाज उपयोगी साहित्य तयार करू करताना पावर सर्वांना मार्गदर्शन केले. त्यांनी प्लास्टिक पासून तयार करण्यात आलेल्या सर्व वस्तू ज्या प्लास्टिक बेंचेस, कवेन्, टाइम्स, गडू, बिटा इत्यादी प्रत्यक्षात दाखविल्या तसेच घरातून निघणाऱ्या इतर अनावश्यक वस्तू पासून विविध उपयोगी वस्तू कशा तयार करतायत याची माहिती दिली. तसेच आज आपला देश विविध क्षेत्रात प्रगती करीत आहे. या इलेक्ट्रॉनिक वस्तू मेडिकल इन्फर्मेन्स, थर्मोकेल व ई-वेस्ट भरपूर प्रमाणात तयार होत आहे. त्यामुळे जगात व आपल्या देशात विविध प्रकारचे प्रदूषण तयार होत आहे. ते कमी करण्यासाठी उपाय व उपाययोजना पावर विस्तृत प्रकाश टाकली. याप्रसंगी त्यांनी स्वतः तयार केलेल्या विविध वस्तूंचे प्रदर्शन दाखविले. कार्यक्रमाचे अध्यक्ष भद्रावती शिक्षण संस्था भद्रावतीचे अध्यक्ष डॉ. विवेक शिंदे यांनी आजच्या जगात वाडत्या प्लास्टिक प्रदूषणाबद्दल चिंता व्यक्त केली.

*gladke*  
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