

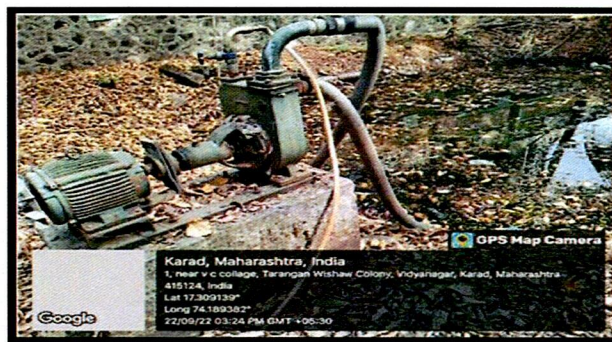
Shri Shivaji Education Society's
Board for Higher Education, Vidyanagar, Karad's
Yashwantrao Chavan College of Science,
Vidyanagar, Karad, Dist. Satara (MH), India-415 124



Criterion VII

Institutional Values and Best Practices

7.1.2 Management of Degradable and Non-degradable Waste Management



Institution initiative for the management of degradable and non-degradable Waste

Biodegradable and non-biodegradable wastes directly affect both the environment and public health. Our institute has made the required steps for the appropriate disposal and recycling of solid waste, biomedical waste, e-waste, liquid waste and hazardous chemical waste. Properly handling waste, both organic and inorganic, is crucial for maintaining the sustainability of the environment.

In this context, the following procedures are implemented:

1) Degradable Waste Management

- The dustbins are positioned in various locations across the institution's premises for the collection of solid waste.
- The vermicompost is developed using collected biodegradable waste dumped in a big pit. The developed vermicompost is applied to the college's botanical garden and other plants.
- To treat kitchen waste, proteolytic, amylolytic, and lipolytic bacteria used to treat kitchen waste in hostels and canteens, to reduce drainage system blockages and odor issues.
- To reduce paper-based waste, the institute's principal, departments, and office use Google Classroom, email, and a WhatsApp group to electronically notify the stakeholders.
- The chemistry and microbiology departments produce hazardous liquid waste. The chemistry department's waste is gathered in a pit and then used on the garden. The microbiology department follows the accepted protocol for cleaning, sterilizing, and neutralizing.
- The waste water of the institute is collected in a bund constructed in the botanical garden, and the same is used for watering the plants and sugarcane farm. All the waste water is utilized on the institute campus itself.
- The hazardous gases generated in the chemistry department and toilets are removed using exhaust fans.



2) Non-degradable Waste Management

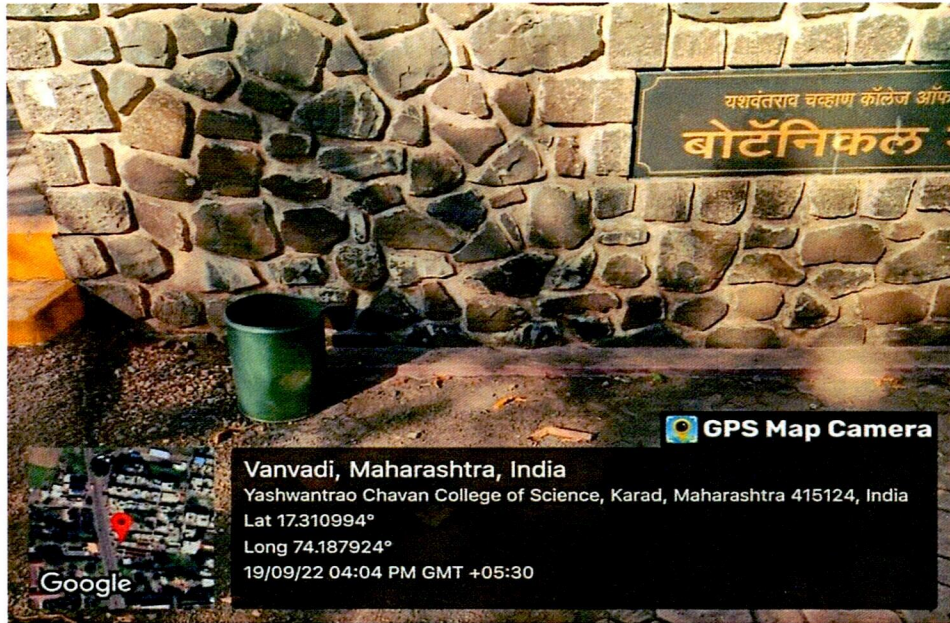
- The world's fastest-growing solid waste stream is e-waste. When disposed of incorrectly, e-waste from electronic and electric products can be harmful to humans and other living things. The prime aim of the institute is the repair of electronic or electric instruments. The institute's computer and its peripherals are repaired by the local computer dealer, Universal Systems, Karad, when necessary. Sources of e-waste in the institute are the electrical section, computer, electronics, and physics departments. The institute collects e-waste from various departments and hands it over to the Scrab dealer for recycling.
 - Waste materials, including plastic, metal, newspaper, and stationery, must be gathered in a systematic way, and delivered to the vendors (Nilesh Traders, Kolhapur) for recycling.
 - The garbage collection truck of Saidapur Grampanchayat gathers, separates, and disposes of the remaining solid and biomedical waste from the women's dormitory.
 - The institute biotechnology department organized an activity *Best out of waste*.
- ### Degradable waste Management
- The vermicompost is developed using collected biodegradable waste dumped in a big pit.
 - The dustbins are positioned in various locations across the institution's premises for the collection of solid waste. (For More Details See Attached at Appendix-I)

Use of Dustbins

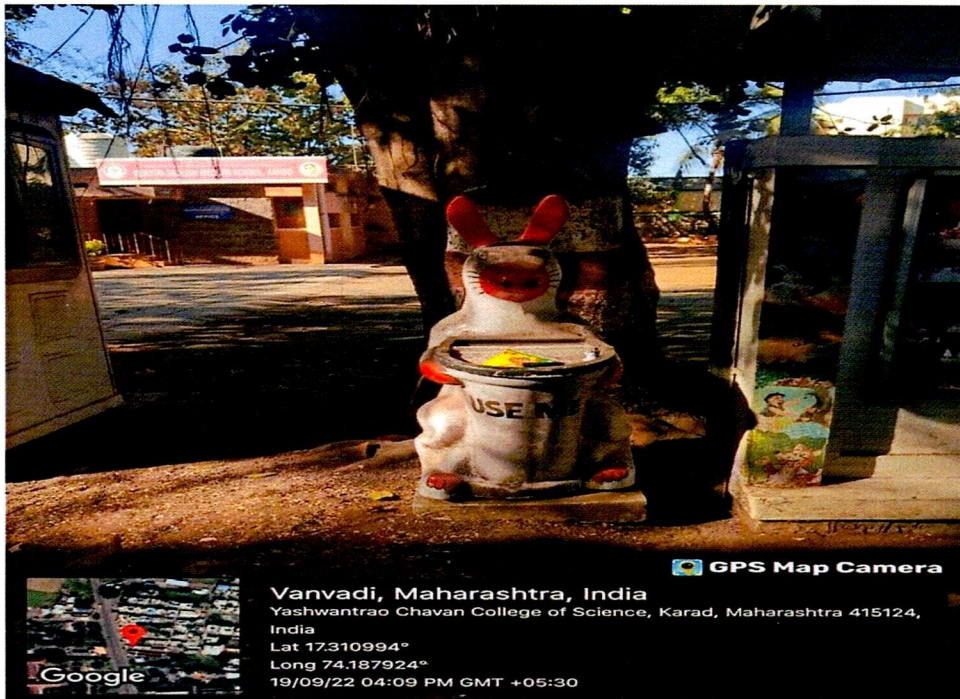


Date: 14/01/2022





Date: 19/09/2022



Date: 19/09/2022



The vermicompost is developed using collected biodegradable waste dumped in a big pit. **(For more details see Appendix-I)**

Vermicomposting Plant



Date: 22/09/2022



Date: 12/01/2024



To treat kitchen waste, proteolytic, amylyolytic, and lipolytic bacteria used to treat kitchen waste in hotels and canteens **(For more details see Appendix-II)**

Kitchen Waste Management



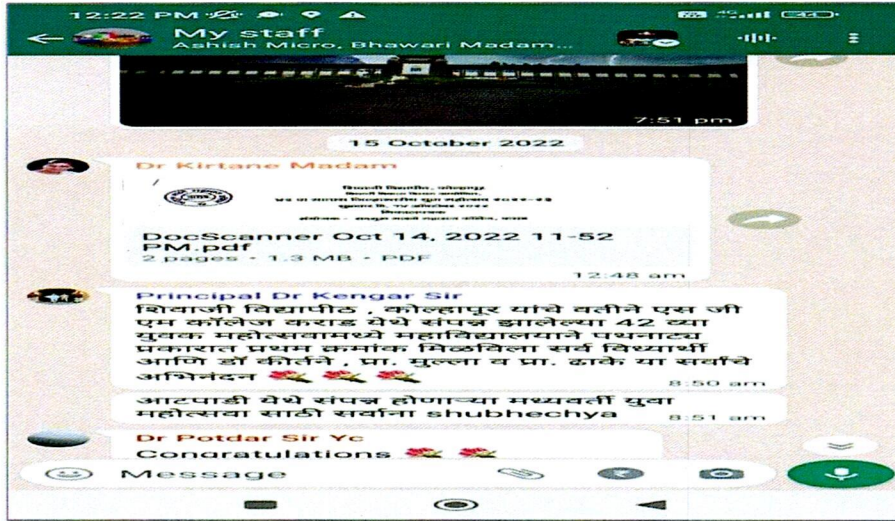
Date: 10/01/2022



Date: 31/01/2024



- To reduce paper-based waste, the institute's principal, departments, and office use Google Classroom, email, and a WhatsApp group to electronically notify the stakeholders.



The chemistry and microbiology departments produce hazardous liquid waste.

Waste Water Collection Bund and Recycling



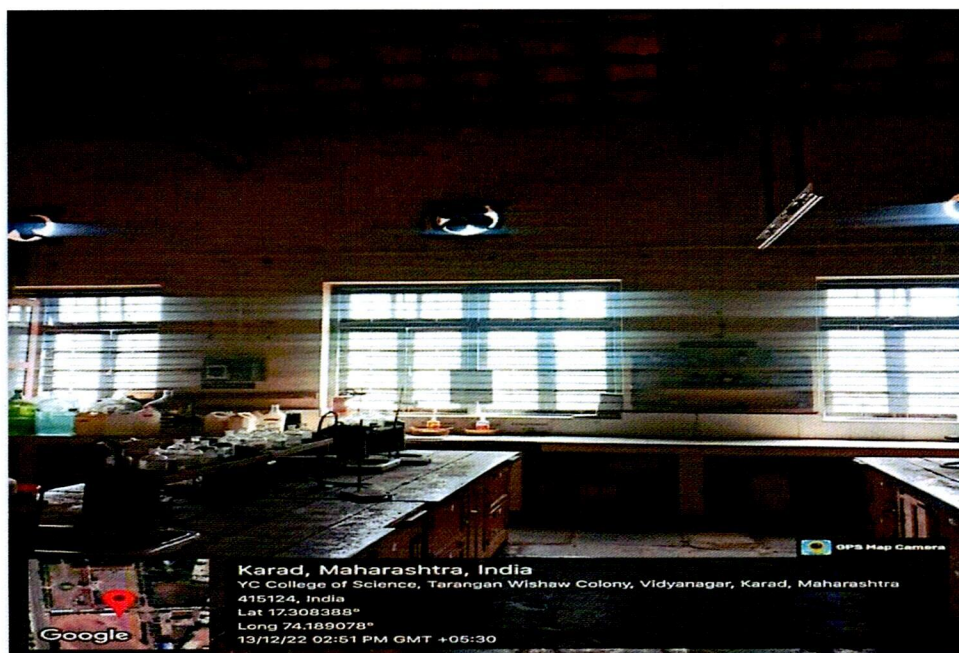
Date: 22/09/2022



Date: 24/10/2020



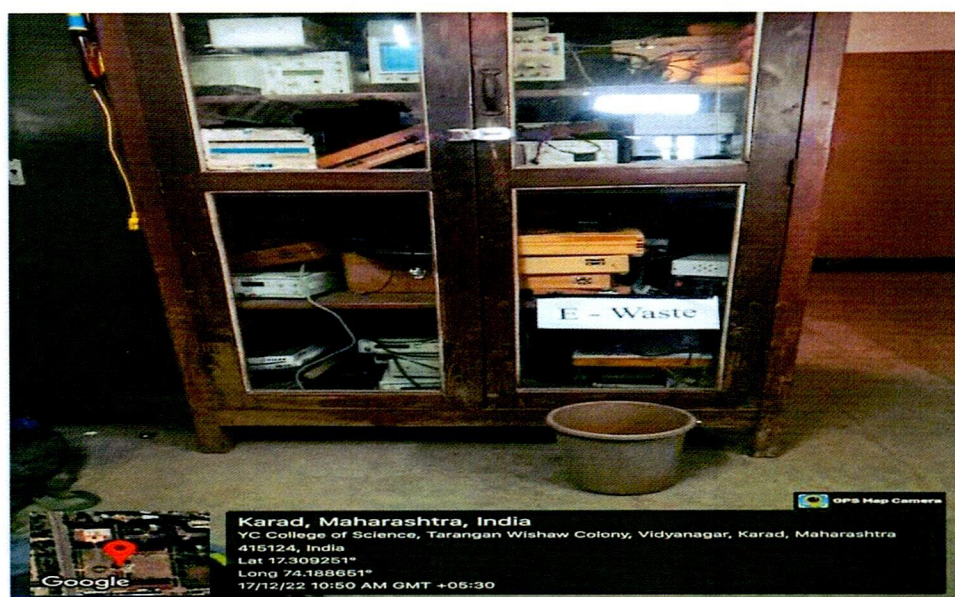
The hazardous gases generated in the chemistry department and toilets are removed using exhaust fans.



Date: 13/12/2022

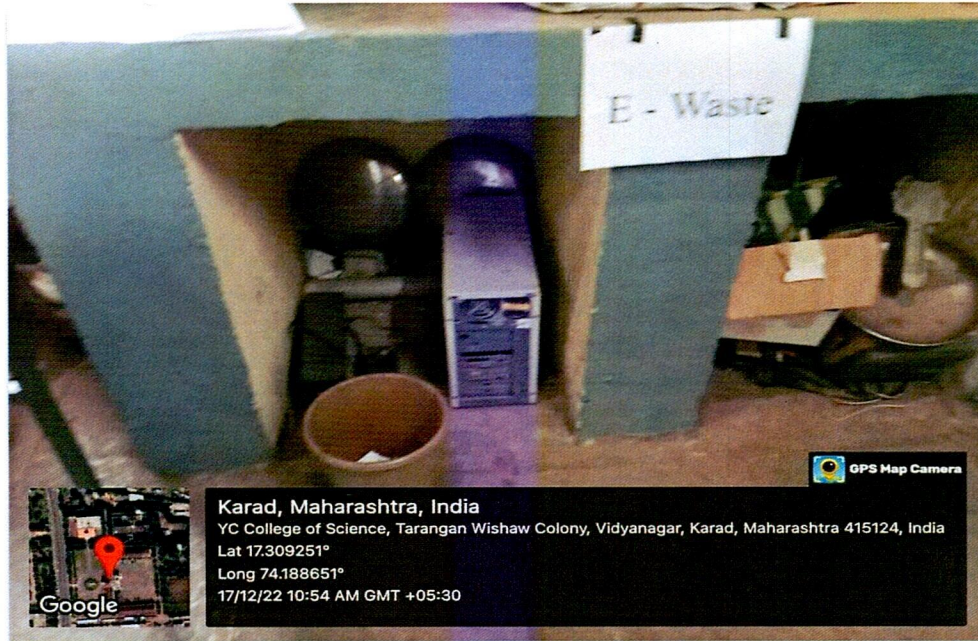
1-The world's fastest-growing solid waste stream is e-waste (For more details see Appendix-III)

Nondegradable waste



Date: 17/12/2022





Date: 17/12/2022



Date: 13/03/2024



- Waste materials, including plastic, metal, newspaper, and stationery, must be gathered in a systematic way, and delivered to the vendors (Nilesh Traders, Kolhapur) for recycling. **(For more details see Appendix-IV)**

Metal Gathering



Date: 21/02/2021

The garbage collection truck of Saidapur Grampanchayat gathers



Date: 09/11/2022

The institute biotechnology department organized an activity “Best out of waste”.



Date: 22/09/2022



Date: 22/09/2022




Co-ordinator,
Internal Quality Assurance Cell (IQAC),
Yashwantrao Chavan College
of Science, Karad


Principal

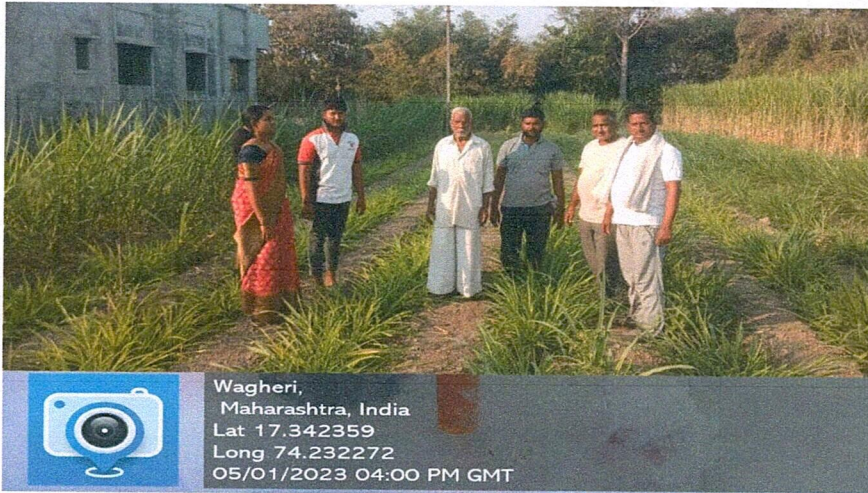
Page 12 | 12


Appendix-I

Yashwantrao Chavan College of Science, Karad
Extension Activity 2022-23
REPORT

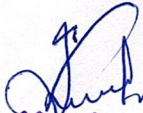
Name of the activity:	Consultation Provided to Farmers for Development of Vermicomposting Units.
Date and time	Thursday, 5-01-2023, 4.00 pm
Name of the department:	Zoology
Purpose of Program	1) The Program aims to educate farmers about vermicomposting. 2) The farmers will learn the fundamental of vermicomposting including its benefits for soil health, waste reduction and ecological sustainability.
Speaker With Designation	Mrs. Mulla. K.C. Assistant Professor, Department of Zoology, Yashwantrao Chavan College of Science, karad.
No. of Farmers Participated	22
No. of Teachers Participated	01
Program outcomes	Participants in the vermicomposting activity program will gain skills in organic waste management and produce nutrients rich compost, contributing to sustainable environmental practice.

Program Photo




Principal
Yashwantrao Chavan College
of Science, Karad




Head
Department of Zoology
Yashwantrao Chavan College of Science, Karad

YASHWANTRAO CHAVAN COLLEGE OF SCIENCE, KARAD

List of Beneficiaries

Department of Zoology

Consultation Provided to Farmers for Development of Vermicomposting Units-2022-23

Sr.No.	Name of Farmers	Sign
1	Patel . S.K.	<u>SKPatel.</u>
2	Patel . M.B.	<u>mPatel.</u>
3	Patel . K.L.	<u>K.L.Patel.</u>
4	Mulla . M.M.	<u>Mulla.</u>
5	Patel . B.G.	<u>B.G. Patel.</u>
6	Patel . S.J.	<u>SPatel.</u>
7	Mulla . D.K.	<u>DMulla.</u>
8	Kadam . V.S	<u>VKadam. . .</u>
9	Kadam . J.S.	<u>J.S. Kadam</u>
10	Patil . B.B.	<u>Patil</u>
11	Chavan . S.S.	<u>SChavan</u>
12	Mohite . P.V.	<u>MohiteP</u>
13	Mali . N.S.	<u>M.S. Mali .</u>
14	Kadam . M.L.	<u>MKadam</u>
15	Yadav . G.M.	<u>GYadav</u>
16	Mulla . C.M.	<u>Mulla</u>
17	Mulla . T.C.	<u>TMulla</u>
18	Patel . M.B.	<u>MPatel</u>
19	Patel . A.A.	<u>APatel</u>
20	Patel . B.Y.	<u>BPatel</u>
21	Patel . S.A.	<u>SPatel</u>
22	Kadam . S.S.	<u>SKadam</u>



A handwritten signature in blue ink, appearing to be "S. Chavan".

Principal
Yashwantrao Chavan College
of Science, Karad

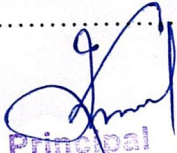
Yashwantrao Chavan College of Science, Karad
2022-23

Consultation Provided to Farmers for Development of Vermicomposting Units
Feedback form


Name of the Beneficiary-.....Yadav. G.M.

Sr. No	Programme information points	Excellent (3)	Good (2)	Satisfactory (1)
1	Usefulness of programme	✓		
2	Amount of new information you learned	✓		
3	Overall experience of the programme		✓	
4	Overall organization of the Programme			✓

Any other suggestions if any.....
.....


Principal
Yashwantrao Chavan College
of Science, Karad
Date: 5/11/23




Signature of Farmer

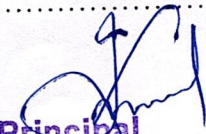
Yashwantrao Chavan College of Science, Karad
2022-23

Consultation Provided to Farmers for Development of Vermicomposting Units
Feedback form

Name of the Beneficiary-... Mulla. C.M.

Sr. No	Programme information points	Excellent (3)	Good (2)	Satisfactory (1)
1	Usefulness of programme	✓		
2	Amount of new information you learned	✓		
3	Overall experience of the programme	✓		
4	Overall organization of the Programme	✓		

Any other suggestions if any.....


Principal
Yashwantrao Chavan College
of Science, Karad
Date: 5/11/23



Signature of Farmer

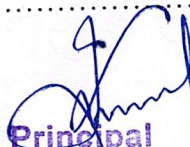
Yashwantrao Chavan College of Science, Karad
2022-23

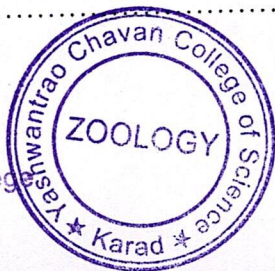
Consultation Provided to Farmers for Development of Vermicomposting Units
Feedback form

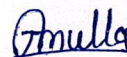
Name of the Beneficiary-.....Mulla.T.C.....

Sr. No	Programme information points	Excellent (3)	Good (2)	Satisfactory (1)
1	Usefulness of programme			✓
2	Amount of new information you learned			✓
3	Overall experience of the programme		✓	
4	Overall organization of the Programme		✓	

Any other suggestions if any.....


Principal
Yashwantrao Chavan College of Science, Karad
Date: 5/19/23




Signature of Farmer

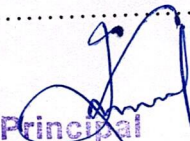
Yashwantrao Chavan College of Science, Karad
2022-23

Consultation Provided to Farmers for Development of Vermicomposting Units
Feedback form

Name of the Beneficiary-..... Patel, M.B.....


Sr. No	Programme information points	Excellent (3)	Good (2)	Satisfactory (1)
1	Usefulness of programme	✓		
2	Amount of new information you learned	✓		
3	Overall experience of the programme		✓	
4	Overall organization of the Programme	✓		

Any other suggestions if any.....
.....


Principal
Yashwantrao Chavan College
of Science, Karad

Date: 5 / 1 / 23




Signature of Farmer

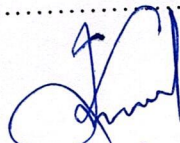
Yashwantrao Chavan College of Science, Karad
2022-23

Consultation Provided to Farmers for Development of Vermicomposting Units
Feedback form

Name of the Beneficiary-..... Patel. A. A

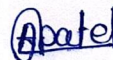
Sr. No	Programme information points	Excellent (3)	Good (2)	Satisfactory (1)
1	Usefulness of programme		✓	
2	Amount of new information you learned		✓	
3	Overall experience of the programme		✓	
4	Overall organization of the Programme		✓	

Any other suggestions if any.....
.....



Principal

Date: 5/11/23
Yashwantrao Chavan College
of Science, Karad



Signature of Farmer

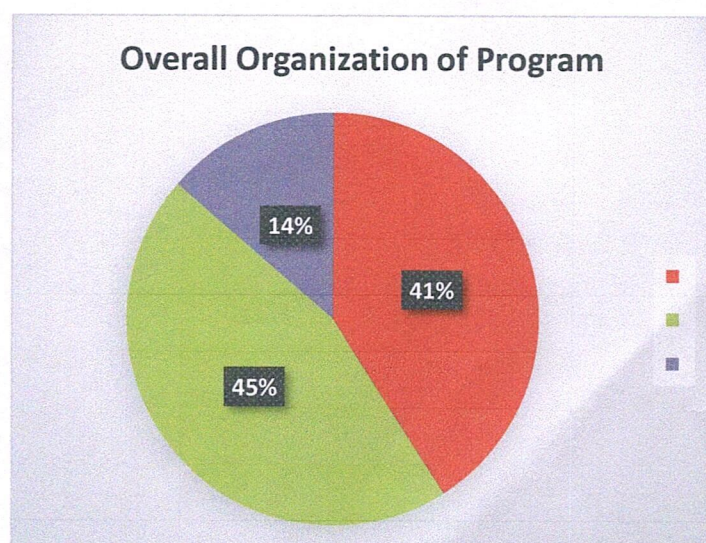
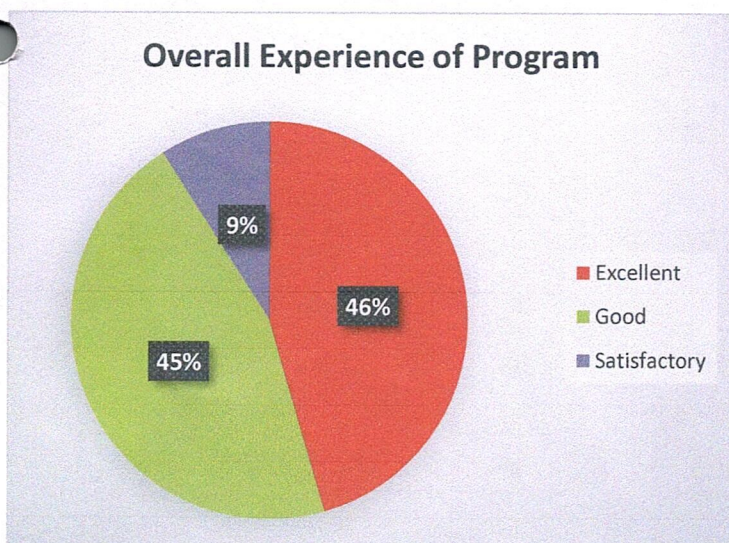
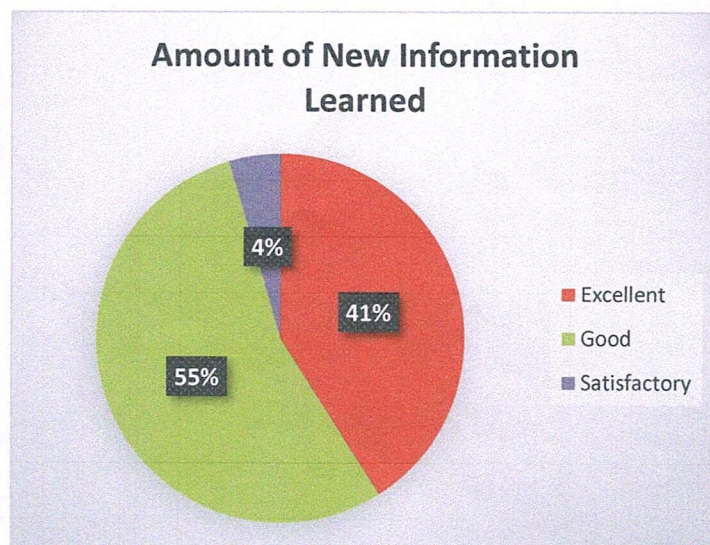
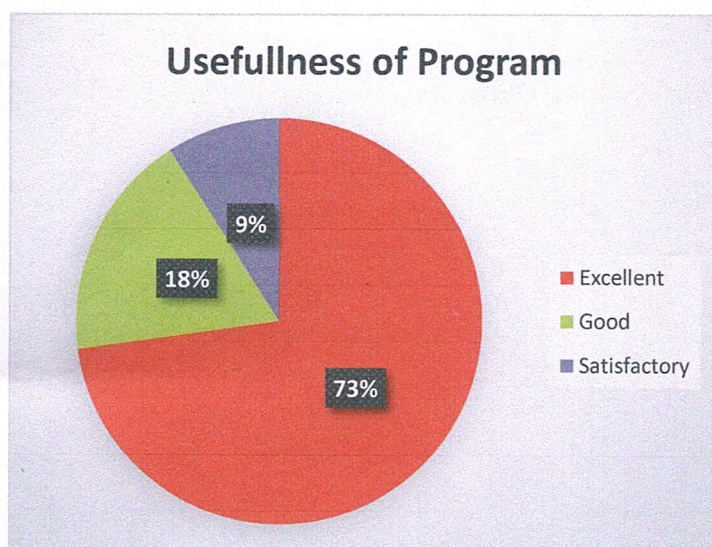
Yashwantrao Chavan College of Science, Karad


Department of Zoology

Extension Activity-Consultation Provided to Farmers for Development of Vermicomposting Units

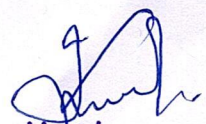
Academic year-2022-23

Feedback Analysis




Principal
Yashwantrao Chavan College
of Science, Karad




Head
Department of Zoology
Yashwantrao Chavan College of Science, Karad

Appendix-II

Yashwantrao Chavan College of Science, Karad

Department of Microbiology

Best Practices-2022-23

Best Practice No. 1

1. Title of the Practice

Kitchen Waste Management Utilizing Microorganisms

2. Objective of the Practice

1. Acquire knowledge about the management of kitchen waste.
2. Understand the role of microorganisms in waste degradation and conversion into manure.

3. The Context

This practice addresses kitchen waste management, fostering curiosity among students regarding the pivotal role of microorganisms in waste degradation and conversion into valuable resources.

4. The Practice

In the Department of Microbiology, B.Sc. and M.Sc. students actively engage in managing kitchen waste from the college mess and canteen. The process involves the preparation of consortia comprising amylase, protease, and lipase-producing bacteria and fungal cultures in the microbiology laboratory. Alternatively, enzymes can be extracted from pure cultures and applied for kitchen waste treatment. The prepared consortia or enzyme preparations are then added to the waste disposal site.

5. Evidence of Success

Microbial degradation of kitchen waste continues to play a pivotal role in mitigating environmental issues, reducing foul odors, and decreasing waste viscosity.

Students, equipped with a solid understanding of microbial bioconversions and enzyme roles, are poised to become future leaders in waste management, contributing to innovative solutions for environmental sustainability.

Increased awareness transcends academic boundaries, influencing individuals and communities to adopt responsible waste management practices, fostering a proactive approach toward waste reduction in daily life.

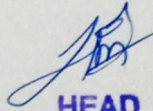


6. Problems Encountered and Resources Required

Specific amylase, protease, and lipase-producing microbial cultures are required for this activity, making screening and maintenance costly, particularly for long-term preservation. Additional budget allocations are necessary for media, chemicals, and facilities to preserve microbial culture. Continuous support ensures the sustainability and success of this impactful waste management initiative.

Kitchen Waste Management Utilizing Microorganism




HEAD
DEPARTMENT OF MICROBIOLOGY

Yashwantrao Chavan College of Science, Karad

Department of Microbiology

Best Practices-2023-24

Best Practice No. 3

1. Title of the Practice

Kitchen Waste Management

2. Objective of the Practice

The objective of this activity is to student will;

1. Acquire the knowledge about the management of waste generated from the kitchen.
2. Understand the role of microorganism in the degradation of waste and its conversion into manure.
3. Acquire knowledge about the different microbial enzymes involved in waste degradation.

3. The Context

To address the waste management issue of waste generated from kitchen, this practice aims to develop curiosity in students regarding the role of microorganisms in waste management, how they degrade waste and convert it into manure.

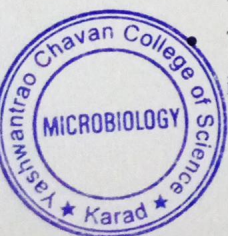
4. The Practice

In the Department of Microbiology, B.Sc. and M.Sc. students are involved in managing the waste generated in the kitchen of the college mess and canteen. Students prepare consortia of amylase, protease, and lipase producing bacteria and fungal cultures in the microbiology laboratory. Alternatively, enzymes can be extracted from the pure cultures and used for the treatment of kitchen waste. The prepared consortia or cured enzyme preparation are added at the site where the waste is dumped.

5. Evidence of Success

- Microbial degradation of kitchen waste continues to play a pivotal role in mitigating environmental issues by reducing foul odors and effectively decreasing waste viscosity.
- Students, equipped with a solid understanding of the principles behind microbial bioconversions and the crucial role of enzymes, are poised to be future leaders in the field of waste management. The knowledge gained during these activities serves as a foundation for innovative approaches and solutions to emerging challenges in environmental sustainability.

The increased awareness fostered by these practices transcends the academic realm, influencing individuals and communities to adopt responsible waste management practices.

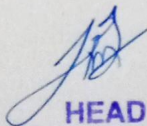


This heightened consciousness, instilled during educational endeavors, translates into a proactive approach towards waste reduction in everyday life.

6. Problems Encountered and Resources Required

This activity requires specific amylase, protease and lipase-producing microbial cultures. The screening and maintenance of these cultures are costly; specifically the long term preservation. Therefore, additional budget is required for media, chemicals, and the facilities for preservation of microbial cultures.




HEAD
DEPARTMENT OF MICROBIOLOGY

Ref. No. *By hand/2018-19*Date: *2018, 05, June*

Annual Maintenance Contract Agreement

I, representing Universal System located in Mangalwar Peth Karad, am writing to formally acknowledge the signed agreement between our company and Yashwantrao Chavan College of Science, Karad, regarding the Annual Maintenance Contract (AMC) for the repair and upkeep of computers and related equipment's.

As per the terms outlined in the agreement:

- The Universal System, Karad is committed to providing timely and efficient services for the repair and maintenance of computers and electronic peripherals.
- The Universal System, Karad will collect the e-waste generated by Yashwantrao Chavan College of Science, Karad for proper recycling and disposing.
- This agreement shall enter in force upon signature by both parties and shall remain in force for 5 years unless terminated by either party on mutual consent upon one month of prior notice.

Outlined below are the details of the services offered along with their corresponding minimum charges:

Sr. No.	Description of Services	Rate in Rs
1	Troubleshooting Charges	350
2	Formatting Charges	450
3	All type of Software installations (charges per software)	250
4	Tonner Refilling with INK	350
5	Projector Repairing	750

The rate of the service will be changed as per market with mutual understanding between both parties. This contract signifies the mutual understanding and consent between Universal System, Mangalwar Peth, Karad and Yashwantrao Chavan College of Science, Vidyanagar, Karad from 05/06/2018 to 04/06/2023.

Date: June, 5, 2018

Place: Karad


Signature

For Universal System, Karad.

Universal System

Proprietor



Principal
Yashwantrao Chavan College of Science, Kara





Ref. No. **HD/2023-24**

Date: **05/06/2023**

Annual Maintenance Contract Agreement

I, representing Universal System located in Mangalwar Peth Karad, am writing to formally acknowledge the signed agreement between our company and Yashwantrao Chavan College of Science, Karad, regarding the Annual Maintenance Contract (AMC) for the repair and upkeep of computers and related equipment's.

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Date: June, 5, 2023

Place: Karad


Signature

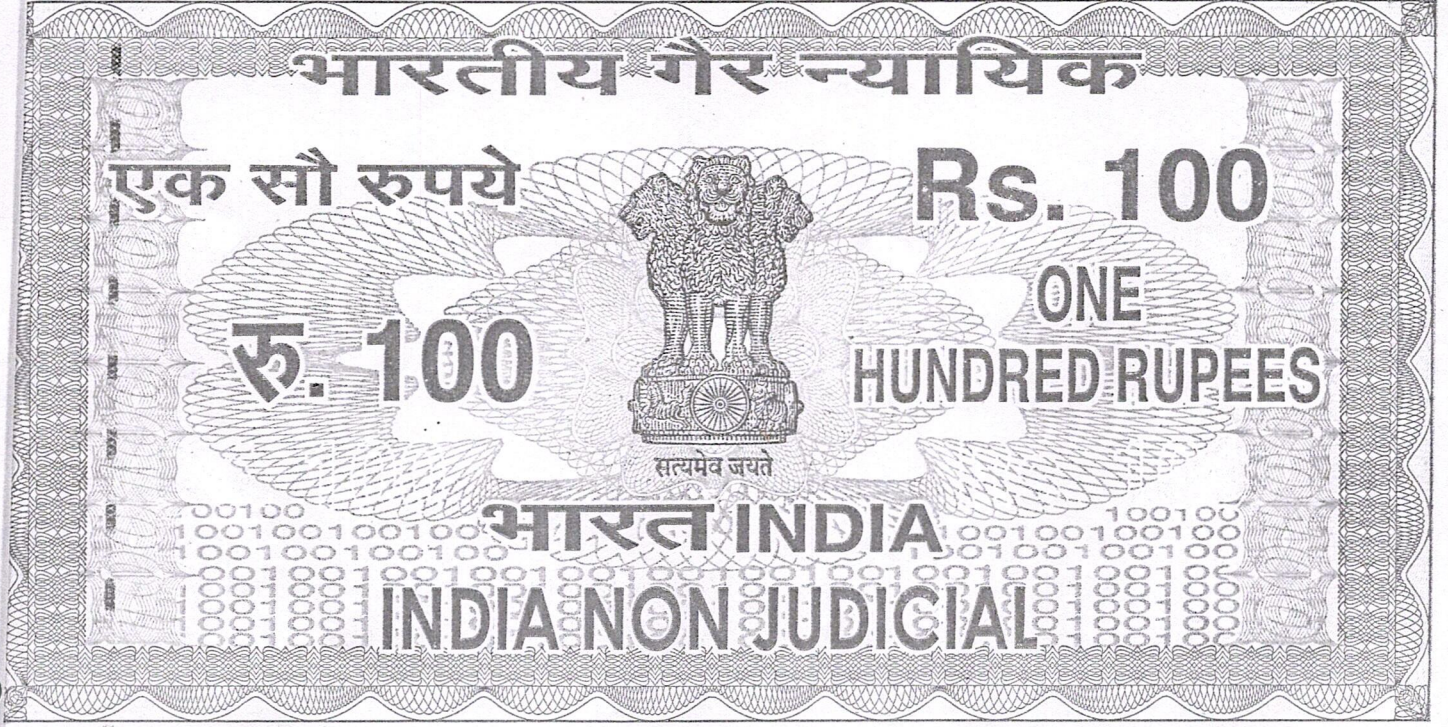
For Universal System, Karad.

Universal System

Proprietor


Principal
Yashwantrao Chavan College of Science, Karad
College of Science, Karad





महाराष्ट्र MAHARASHTRA

2023

61AA 661167

18 DEC 2023

दिनांक वि.क्र. ४०३९ मुद्रांक शुल्क रक्कम - १००/-
 दस्त नोंद करणार आहे का-होय/नाही, नोंदणी होणार दु.नि.कार्या.

दस्ताचा प्रकार/अनुच्छेद क्रमांक /कारण
 मुद्रांक विकत घेणाऱ्यांचे नांव व पत्ता ७५६८

दस्त्या पक्षाकाराचे नांव व पत्ता ७५६८
 हस्तचे नांव व पत्ता ७५६८

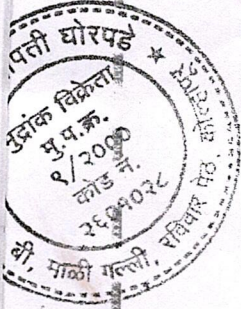
मौजदला रक्कम - मिळकतीचे वर्धन
 मुद्रांक विक्रेत्याची सही - *Shirwad*

परवाना तसेच मुद्रांक विक्रीचे ठिकाण नांव व पत्ता - सुधीर श्रीपती घोरपडे
 (स्टॅम्प व्हॅंडर) ला. नं. ९/२०००
 कोड नं. २६०१०२८, सि.स.नं. ८७०, बी वॉर्ड, माळी गल्ली, रविवार पेठ, कोल्हापूर.
 मुद्रांक विकत घेणाऱ्याची सही - *Shirwad*

॥ करारपत्र ॥

STAMP HEAD CLERK
 TREASURY OFFICE
 KOLHAPUR (M S)

7 DEC 2023



यशवंतराव चव्हाण कॉलेज ऑफ सायन्स विद्यानगर
 कराड ता. कराड, जि. सातारा
 ४१५१२४

लिहून घेणार

श्री वैष्णवी ट्रेडर्स
 सरकारमान्य वेस्ट पेपर डिलर्स आणि मिल
 ५४/७, न्यु म्हाडा कॉलनी, यशवंत नगर, मोरेवाडी,
 कोल्हापूर

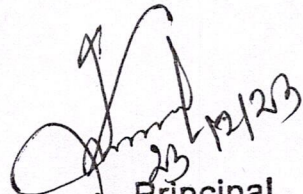
लिहून देणार

Shirwad
 - Principal,
 Yashwantrao Chavan College of Science,
 Karad

उपरोक्त लिहून देणार यांचे पुस्तके,वाह्या व विद्यापीठ उत्तरपत्रिका, एस्.एस्.सी.बोर्ड उत्तरपत्रिका जुनी उत्तरपत्रिका व कॉलेजमधील सर्व जुने रेकॉर्ड रद्दी विकत घेतले असून ते खालील अटीस अनुसरून ताब्यात घेत आहे .

- 1) सदरची रददी मी पेपर मिलला लगादा करून पूर्ण उत्पादनासाठी वापर करू .त्याबद्दल सर्वस्वी जबाबदारी आमची आहे .
- 2) सदरची कॉलेजची रददी व उत्तरपत्रिकेचा कुठेही दुरुपयोग नाही हमी १०० रु .स्टॅम्पवर लिहून देतो .
- 3) सदरच्या कॉलेजची रददी व उत्तरपत्रिकेचा गैरवापर झाल्यास मी कायदेशीर कारवाई पात्र राहीन .

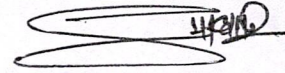
दि. 13/12/2023


Principal
Yashwantrao Chavan College of Science,
Karad

यशवंतराव चव्हाण कॉलेज ऑफ सायन्स विद्यानगर
कराड ता. कराड, जि. सातारा

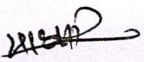
४१५१२४

आपला विश्वासू



श्री वैष्णवी ट्रेडर्स


- Principal,
Yashwantrao Chavan College of Science,
Karad



Shri Shivaji Education Society's No. 3454
Yashwantrao Chavan College of Science, Karad.
(Senior College) Date : 23/3/2017

Received with thanks from Shri / Miss: Nilesh Teachers

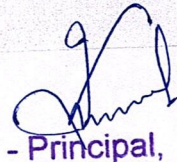
the sum of Rupees Two thousand twenty only

only by Cash / Draft / Cheque / M. O. No.

on account of Cost of West paper (College Exam)

Rs. 2020/-

For Accountant



- Principal,
Yashwantrao Chavan College of Science,
Karad

Shri Shivaji Education Society's
VENUTAI CHAVAN COLLEGE, KARAD.

No. 348

Date: 23.3.2017

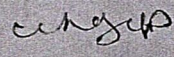
Received with thanks from Shri / Shrimati Nilesh Teachers

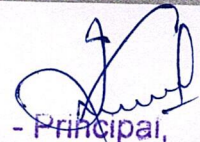
the Sum of Rupees One thousand eight hundred fifty
only only by Cash

on account of Cost of West Paper (College Exam)

Rs. 1850/-

Accountant


Principal.



- Principal,
Yashwantrao Chavan College of Science,
Karad

Shri Shivaji Education Society Karad's Board for Higher Education
BOARD FOR HIGHER EDUCATION, KARAD

No.779

Date : 02/01/2024

Received with thanks from Shri / Miss Shri Vaishnavi Foulekar, Kolhapur

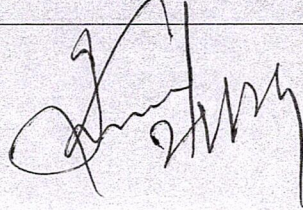
The sum of Rupees Ninety three thousand eight hundred ninety nine

only by Cash / Draft / Cheque / M. O. No. _____

on Account of Y.C. college lib Wrightroff Books & Dept West paper

Raolshi

RS. 93899/-



For Secretary



- Principal,
Yashwantrao Chavan College of Science,
Karad