

Parvatibai Chowgule College of Arts and Science
Autonomous

7.1.5 Additional information on green campus initiatives

Activities conducted in academic year 2020 – 21

1. 'Sustainable Approach to Organic Farming in a Self-designed Vermicompost Integrated Aquaponics Unit'

Miss Inoska Mendes and Miss Sarah Kandhekar who completed their Bachelor's Degree Programme in the academic year 2019 - 2020 presented a paper titled 'Sustainable Approach to Organic Farming in a Self-designed Vermicompost Integrated Aquaponics Unit' (which was based on their TYBSc project) at the International Conference (Virtual) on 'Affordable Strategies for Health, Environment and Food Technology. It was organized from 22nd-23rd December, 2020 by the Department of Biotechnology Engineering, N.M.A.M. Institute of Technology, Karkala . The project was guided by Ms.Vallanka Dias, Asst Prof, Dept. of Biotechnology, who also, participated in the conference.

2. Guest lecture on 'Landscaping and Garden Designing'

An online guest lecture was organised on 16th April 2021 by Ms. Amisha Pednekar and Ms. Jocelyn Makasare, Asst Professors, Dept of Botany on 'Landscaping and Garden Designing'. The guest speaker was Mr. Rozendo Mendonsa, Owner of Mr. Farmer India Pvt. Ltd. Guirim, Mapusa, Goa.

3. 'Wetland Conservation' poster presentation

Ms. Abigail Sacrafamilia, student of TYBSc Zoology won the 2nd place in the National poster competition organized by ASC College, Lanja, Ratnagiri in collaboration with Mangrove society of India on 2nd February 2021. The theme of the competition was "Wetland Conservation".

4. “Bird Walk

Department of Zoology coordinated the ‘Bird Walk’ organized by Goa Forest Department from 5th to 7th February 2021. Bird walks were conducted at two sites viz. Carambolim Lake and Curtorim-Raia Lake (Maina-Curtorim Wetland Complex). Mr. Stephen Dias, Ms. Gautami Manakikar, Ms. Prasanna Naik Gaonkar and Ms. Pratibha Tripathi conducted the bird walks for the general public on behalf of the forest department.



5. ‘Wildlife Management through GIS and GPS Technology’

Prof. Nandkumar Sawant (Head, Department of Geography), Dr. Nandini Vaz Fernandes (Head, Department of Zoology), Mr. Deepak Kumbhar (Assistant Professor, Department of Geography) and Mr. Stephen Dias (Assistant Professor, Department of Zoology) were invited as the Resource Persons for a workshop on ‘Wildlife Management through GIS and GPS Technology’ conducted for 50 forest officials by the Goa Forest Department, Government of Goa on 19th February, 2021.



Prof. Sawant stressed on the importance of applying a holistic approach in wildlife monitoring using GIS. Furthermore, he also explained the use of geospatial technologies in wildlife management using real world case studies and examples.



Dr. Nandini Fernandes discussed various conventional and advanced geospatial tools used to monitor biodiversity such as ground surveys, aerial photography, radio telemetry, infrared camera trapping, remote sensing, GIS and GPS in monitoring wildlife and gave examples of how it helps in wildlife monitoring



Parvatibai Chowgule College of Arts and Science Autonomous

Accredited by NAAC with Grade 'A' (CGPA Score 3.41 on a 4 Point Scale in 3rd cycle)
Best affiliated College-Goa University Silver Jubilee Year Award

GREEN INITIATIVES / ENVIRONMENT PROTECTION INITIATIVES -2020-2021

BY

STUDENTS OF SEC COURSE ON WASTE MANAGEMENT TECHNIQUES

Guiding teachers: Dr. Nandini Vaz Fernandes, Ms. MadhuBalekai, Ms. Tessa Vaz & Ms. Gautami Manakikar

E-POSTERS: The SEC students designed E-posters in order to create awareness on the various Waste Management techniques. The students used posters to explain about the adverse effects caused on the environment and human health by the waste generated. They also created awareness on the different sources of waste and how one can segregate and dispose the waste safely without harming the environment. They emphasized on the hazardous effect of E-waste on the environment and suggested methods of disposing the E-waste generated. The main aim of this activity was to reignite the awareness regarding the ill aspects of improper waste management.

NAME OF STUDENT	PHOTOGRAPHS
Stena Rebello	
Tahoora Shaikh	

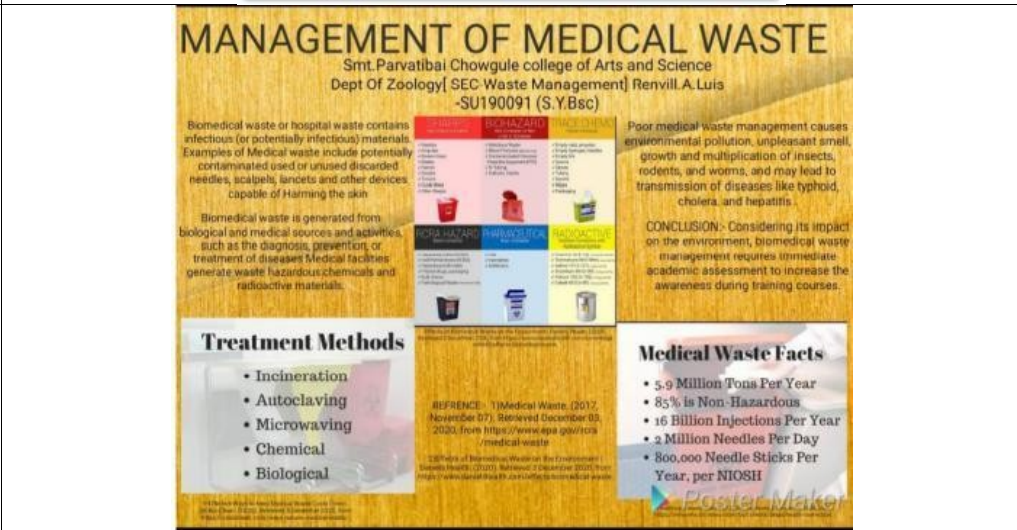
RadhaShirsat



Shruti Kale



Renvill Luis



SOLID WASTE MANAGEMENT
DEPARTMENT OF ZOOLOGY

NAME: ANUSHA RAUT
ROLLNO: SU190064
CLASS: SYBSc

INTRODUCTION

Solid waste management is the process of collecting and treating solid wastes. Solid wastes are generated from municipal, industrial, and agricultural activities. The waste can be collected by door-to-door collection method, community bins are placed in the locality. After collection, the solid waste is transported via trucks and then it can be treated to reduce the total volume and weight of the materials. This treatment changes the form of the waste and makes it easier to handle. The methods of solid waste management includes sanitary landfills, composting, incineration, pyrolysis.

METHODS OF SOLID WASTE MANAGEMENT

Sanitary landfill
It is the most common method of solid waste management. The landfills are designed in such a way that the bottom of the landfill is covered with an impervious liner, which is made up of several layers of thick plastic and sand. This liner protects the ground water from being contaminated because of leaching. When the landfill is full, it is covered with the layers of soil and clay to prevent seepage of water.




Fig: sanitary landfill
Author: kot-coll
Source https://live.staticflickr.com/7195/7000513786_4e183bdc779.jpg
License: CC-BY-NC-SA2.0

Incineration
In this method the solid waste are burnt at high temperature. It is burned inside a properly designed furnace under very controlled conditions. The volume of the combustible waste is reduced considerably by burning waste. In the case of off-site pits, it is an most appropriate method to minimize scavenging.

CONCLUSION

Waste management is an important element of environmental protection. The improper disposal of solid waste can create unhygienic conditions which can lead to pollution and various disease. Using recovered material generates less solid waste. The sanitary landfill method is most preferred waste management method.



SOURCES OF SOLID WASTE

Residential waste is main Source of solid waste. Others include industrial, Commercial, construction and demolition areas.

REFERENCES

Nathanson, J. A. (2020, november 10). solid waste management. Retrieved from britannica: <https://www.britannica.com/technology/solid-waste-management>
Solid Waste Management. (n.d.). Retrieved from tutorialspoint: https://www.tutorialspoint.com/environmental_studies/solid_waste_management_

DEPT OF ZOOLOGY (SEC-WASTE MANAGEMENT)
MANAGEMENT OF MEDICAL WASTE
Vineet nerurkar -SU 190298 SYBSC

Medical waste is a subset of wastes generated at health care facilities, such as hospitals, physicians' offices, dental practices, blood banks, and veterinary hospitals/clinics, as well as medical research facilities and laboratories.

conclusion

There is lack of sufficient knowledge among dental students regarding management of biomedical waste and recycling or reusing of dental materials. Considering its impact on the environment, biomedical waste management requires immediate academic assessment to increase the awareness during training courses.

Alternative Treatment and Disposal Technologies for Medical Waste

Thermal treatment, such as microwave technologies; Steam sterilization, such as autoclaving; Electropyrolysis; and Chemical mechanical systems, among others.

REFERENCE: Medical Waste. (2017, November 07). Retrieved December 03 2020, from <https://www.epa.gov/rcra/medical-waste>
J Int Soc Pres Dent. 2016 Sep-Oct; 6(5).
<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5100000/>

COMPOSTING





COMPOSTING

Composting is a method for treating solid waste in which organic material is broken down by microorganisms in the presence of oxygen to a point where it can be safely stored, handled and applied to the environment.

TYPES OF COMPOSTING:

- Composting basins
- Onsite composting
- Vermicomposting
- Aerated window composting
- Aerated static pile composting
- In-vessel composting

Advantages:

- Enriches soil, helping retain moisture and suppress plant diseases and pests.
- Reduces the need for chemical fertilizers.
- Encourages the production of beneficial bacteria and fungi that break down organic matter to create humus.

Disadvantages:

- Drawbacks of composting by – products are cost for site preparation and equipment, the lengthy treatment period, targeting final use of compost product, and environmental issues such as odors and dust. Some investment in equipment and site preparation is required or recommended.

References:

Compostation. R. R. (2015, July 22). The importance of composting. Retrieved from <https://www.compostcentral.org/why-composting/>

Bhagyashree Mahajan

SEWAGE WASTE MANAGEMENT

Bhagyashree Mahajan , roll no. SU190341, SYBSc Zoology , Waste Management

What is sewage?

Sewage is the term used for wastewater that often contains faeces, urine and laundry waste. It is characterized by volume, rate of flow, physical condition, chemical and toxic constituents and its bacteriological status.

What is sewage treatment?

Sewage treatment is the process of removing contaminants from municipal wastewater, containing mainly household sewage and industrial wastewater.

Problems of sewage waste.

1. Untreated sewage water can contaminate the environment and cause diseases such as diarrhoea. It also enters into various water bodies causing them to be polluted. Hence sewage treatment is essential.
2. Sewage disposal is a major problem in developing countries as many people don't have access to sanitary conditions and clean water.

Sewage Treatment

- Primary treatment basically involves physical removal of particles from sewage through filtration and sedimentation.
- Secondary or biological treatment removes dissolved and suspended biological matter. It is performed by indigenous, waterborne microorganisms in managed habitat. Treated sewage is then released into local waterways.

Lizanne Cardozo

→ Have your household sewer line inspected and replaced if necessary

→ Use strainers in sinks to catch food scraps and empty them into trash for disposal

→ Don't put fats, oils or grease down the drain



"Polluted Malad Creek at Likhandaola, Mumbai." (Ravi Khemka)
License: CC BY 2.0.
<https://creativecommons.org/licenses/by/2.0/>

Sewage is the waste-water that contains faeces, urine and laundry waste. As a result aquatic organisms are unable to survive. Typhoid fever and cholera are some examples of diseases carried by sewage. To prevent sewage; use flushes with low capacity, fix leakages in sewer pipes. Alternative methods of sewage disposal are septic tanks, biogas plants.

PREVENTING POLLUTION DUE TO SEWAGE

"STOP THE POLLUTION QUICK, DON'T MAKE THE WATER SICK"

"THINK OUTSIDE THE SINK!"



"Tannery sewage" (Magadhrankin)
License: CC BY-NC 2.0.
<https://creativecommons.org/licenses/by-nc/2.0/>

Mayuri Verlekar

Parvatibai Chowgule College of Arts and Science

Name: Mayuri Verlekar
Roll No.: SU190296
Department: Zoology

MEDICAL WASTE

INTRODUCTION

Medical waste is the waste that contains potentially infectious material. This waste includes waste that is generated by healthcare workers like hospitals, laboratories or medical research facilities.

Effects of medical waste

- Soil, air and water contamination
- It can lead to the spread of diseases like HIV, Tuberculosis, hepatitis.
- The radioactive elements can seep in the ground water through the landfill and can lead to serious diseases.

• 5.9 Million tones of medical waste is generated per year.

• 16 Billion injections are disposed annually.

HOW CAN MEDICAL BE TREATED?

Treatment methods include:

- Incineration
- Autoclaving
- Microwaving
- Chemical treatment
- Biological treatment



Source: <http://www.who.int/news-room/fact-sheets/detail/health-care-associated-infections>



Source: <https://www.who.int/news-room/fact-sheets/detail/health-care-associated-infections>



Source: <https://www.who.int/news-room/fact-sheets/detail/health-care-associated-infections>

DISCUSSION

How can we handle medical waste?

- Know the healthcare waste rules regulated by DOT, EPA, OSHA and DEA.
- Avoid putting non-hazardous waste in with rest to prevent overloading.
- Separate waste based on sharps, pharmaceutical, chemical, pathological and non-hazardous.
- Use the medical waste disposal color code.

CONCLUSION

Incineration of biomedical waste is one of the techno-economical viable scheme. Individual awareness and participation is very important. Safe and effective management is not only a legal necessity but also a social responsibility.

Reference: Unknown.(2020). What Is Medical Waste? Definition, Types, Examples & More Retrieved from MedPro Original: <http://www.medprodisposal.com/medical-waste-disposal/what-is-medical-waste-definition-types-examples-and-more/>

(Mam)S.(2019) Impact Of Biomedical Waste On Human Health. Environmental Claims Journal. 31:1-334.

DhanayaNaik

E -WASTE MANAGEMENT

WHAT IS E -WASTE?

➤ It refers to all the electronic waste generated which is unwanted, broken or outdated.

SOURCES:

➤ It includes all the electronic gadgets like television, computer, cellular phones, refrigerator, VCRs, lamps, tablets, bulbs and etc.

FACT: 20 to 50 million metric tons of e-waste are disposed worldwide every year.

HAZARDOUS EFFECTS OF E- WASTES

HEALTH:

➤ Chemical poisoning through inhalation. other effects includes nausea, neurological disorders, congenital malformations, vomiting, cancer.

ENVIRONMENT:

➤ Degrade water and soil quality.
➤ It result in high algal population in aquatic conditions.
➤ Change in climate and ozone layer destruction.
➤ Waste break down to give one of the potent greenhouse gas -methane.

PREVENTIVE MEASURES:

➤ If you have parts and equipment that are still working, try repairing the electronic device before getting a new one.
➤ Recycle no matter what you have, it's important to always dispose of your e-waste properly.
➤ Buy environmentally friendly electronics. Look for products labelled Energy Star or certified by the Electronic Product Environmental Assessment Tool.

Gauri Pandit



"Beach Cleanup" by Jason Karm is licensed under CC BY-ND 2.0

"The Problem: It's not the label" by Joshua Dwyer is licensed under CC BY 4.0

80% OF LITTER IN OCEANS COMES FROM LAND BASED ACTIVITIES. MOST OF IT IS SINGLE USED PLASTIC



STOP OCEAN PLASTIC POLLUTION, WWW.DEPOSITS.COM

START THE FIGHT AGAINST PLASTIC TODAY, FOR BETTER

Yohan Rodrigues



DEPARTMENT OF ZOOLOGY SEWAGE MANAGEMENT ROLL.NO SU190072 SYBSC

Introduction

What is sewage waste ?

Sewage waste is considered to be the major issue in waste management. It is basically considered as wastewater produced by the community. It is characterized by volume or rate of flow, physical condition, chemical and toxic constituents, and its bacteriologic status. It basically includes waste water from sinks, bathtubs, showers, dishwashers, and clothes washers etc. Water from toilets these are then collected through a system of sewer pipes and then taken to the disposal. The system of sewers is called sewerage. Sewage treatment is removing contaminants mainly from municipal sewage plus some industrial wastewater. So these e-poster is about how the sewage waste is treated and collected in order to tackle the major waste hazards of the world and this issue is considered to be the major issue.

method



A "3 A Possible Sewage Plant in Connecticut or Rhode Island" by CthulhuWho1 (Will Hart) is licensed under CC BY 2.0

Conclusion

Why to treat sewage water ?

- Sewage water contains bacteria, viruses etc. Which reduces the dissolved oxygen level in water as a result marine life will be affected.
- Treated water from sewage treatment plant can be made used for domestic uses (for gardening, washing, etc.)
- And as it will reduce overall water contamination.

Bibliography

Carcoran, E.; C. Neilemann; E. Baker; R. Box; D. Osborn; H. Savell, eds. (2010). *Wastewater Engineering: Treatment, Reuse, and Recycling*. Elsevier, USA, 2003. p. 1-10. retrieved from [\(PDF\)](#). Arendal, Norway: UNEP/UNID-Arendal. (PDF) on 2013-12-18.

(4th ed.). Metcalf & Eddy, Inc., McGraw Hill, USA, 2003. p. 1-10.

AakanshaPatil

AAKANSHA PATIL
ROLL NO. SU190094
CLASS - SYBSC ZOOLOGY

DEPARTMENT OF ZOOLOGY WASTE SEGREGATION

Segregation is the most important step for the waste treatment. Diverse waste materials requires different ways of treatment.

WHY WE NEED WASTE SEGREGATION ?

India is getting buried under mounds of garbage as the country has been generating more than 1.50 lakh metric tonne (MT) of solid waste every day. Worse - approximately 90 per cent (1.35,000 MT per day) of the total amount is collected waste. Nearly 15,000 MT of garbage remain exposed every day, resulting in almost 55 lakh MT of solid waste disposed in open areas each year, which leads to "severe" pollution level. Of the total collected waste, only 20 per cent (27,000 MT per day) is processed and the remaining 80 per cent (1,08,000 MT per day) is dumped in landfill sites. At times the "highly polluting" unprocessed solid waste in the dump sites reaches 3 crore MT. The solid waste in landfill sites and the uncollected trash - of the total 5.4 crore MT of solid waste generated annually - 4.5 crore MT are unprocessed. The Ministry of Environment, Forests and Climate Change (MoEFCC) provided the details of the ever-growing garbage citing a 2016-17 report by the Ministry of Housing and Urban Affairs.

There are number of important reasons that encourages waste segregation; legal obligations, cost savings and protection of human health and the environment.

Here are some steps to manage and segregate waste:

1. Keep separate containers for dry and wet waste in the kitchen.
2. Keep two bags for dry waste collection- paper and plastic, for the rest of the household waste.
3. Keep plastic from the kitchen clean and dry and drop into the dry waste bin.

The benefits of waste segregation are a huge part of the process of waste management. Generating waste materials is something that is practically unavoidable in the world of today. Segregating and disposing of waste properly will not only reduce the amount of toxins entering the atmosphere but is a way of saving the planet and lives of people.

Bibliography

1. Sharma, A. (2017). *Waste Segregation*. Retrieved from <https://www.researchgate.net/publication/318111111>

2. Ministry of Environment, Forests and Climate Change (MoEFCC). (2016-17). *Waste Management in India*. Retrieved from <https://www.mefcc.gov.in/>

Ceejel Pinto

What exactly is sewage?

Sewage is the waste water which is produced in a community of people and can be categorized by volume, toxic/chemical components, physical conditions, etc. This sewage is flows in the water bodies contaminating them and leading to land and water pollution.

Why sewage treatment is necessary?

If the sewage is left unchecked and is not treated properly before releasing into the water bodies there can be

Waste water treatment

sewage is treated in three phases: primary, secondary and tertiary treatment. Primary treatment is where the solid substances get settles at the bottom which are collected and the lighter substances such as oils, fats which float on the top are scrapped off. In secondary treatment with the help of the aerobic bacteria the waste is broken down. And the last phase which is the tertiary phase acts like a filter where the nutrients and other particles harmful to the ecosystem are drained off.

Consequences

groundwater will be polluted, High risk of diseases, Increase of pollution, Wastage of energy.

References-

Mudge, S.M (1964). Retrieved from sciencedirect: <https://www.sciencedirect.com/topics/agricultural-biological-sciences/topics>.
Sudhan, H. (2019, april 8). Why is sewage treatment necessary. Retrieved from quara: <https://www.quora.com/why-is-sewage-treatment-necessary>

SanjanaKanguri

REDUCE WASTE

NAME : SANJANA KANGURI :
SU190357: SYBSC

WHAT IS WASTE MANAGEMENT ?
Waste management includes the activities and action required to manage waste from its inception.

REDUCE: THE BEST TO MANAGE WASTE IS NOT PRODUCE IT. REDUCING MEANS USING FEWER RESOURCES IN THE FIRST PLACE BY REDUCING CONSUMPTION AND BUYING LESS.

RECYCLE: RECYCLING EXTRACTS VALUABLE MATERIAL FROM ITEMS THAT MIGHT OTHERWISE BE CONSIDERED TRASH AND TURNS THEM INTO PRODUCTS.

REUSE: IT TAKES ECONOMICAL AND ENVIRONMENTAL SENSE TO REUSE PRODUCTS AND SOMETIMES CREATIVITY. RATHER THEN THROWING OUT THINGS REUSE THEM IN BETTER WAY.

Reduce, Reuse, Recycle!

One of the bigger reasons to **reduce waste** is to conserve space in our landfills and **reduce** the need to build more landfills which take up valuable space and are a source of air and water pollution. By **reducing** our waste, we are also conserving our resources

REFERENCE: MICHAEL DAVIDSON(AUG, 03, 2018) THE IMPORTANCE OF WASTE MANAGEMENT RETRIVED FROM <https://www.solo.com>.
Paul N. Cheremisinoff (2016) waste reduction retrived from <https://www.sciencedirect.com>

Rukaiya Khan

Sewage treatment

❖ **Introduction**
Sewage is the wastewater generated by a community, namely: a) domestic waste water, from bathrooms, toilets, kitchens, etc., b) raw or treated industrial wastewater discharged in the sewerage system, and sometimes c) rain-water and urban runoff. The main components in sewage are suspended solids, soluble organic compounds and fecal pathogenic microorganisms, a variety of chemicals like heavy metals, trace elements, detergents, solvents, pesticides, and other unusual compounds like pharmaceuticals, antibiotics, and hormones can also be detected in sewage. With urban runoff come potentially toxic compounds like oil from cars and pesticides that may reach the treatment plant and, eventually, a water body

Photo by Wikimedia/05April2019

Classification of sewage

Domestic sewage
Domestic sewage : It is composed of human waste and waste water resulting from personal washing institutions and other waste products of normal living

Industrial Sewage
Industrial sewage : These are waste that result from an industrial process or the production or manufacture of goods

Sewage treatment
Primary treatment – physical separation for removal of bulky solids and oil/grease
Secondary treatment – bioreactor primarily intended to reduce BOD

Sources of domestic waste water (Samuel 2005)

Misha Almeida

Managing Waste

Misha Almeida
SU190027
Waste Management

Reduce and Reusing waste

Reducing waste at the source is achieved by expanding recycling efforts and providing food waste treatment facilities at residential and commercial properties. This reduces heavy reliance on raw materials that are continuously getting exhausted.

<https://images.app.goo.gl/4L3h136NArTVj7177>

Recovery and Recycling

In recovery of waste the items are transformed into a product that could be used for some other purposes instead of throwing it out. Recycling involves converting trash into new products to reduce the production of fresh materials and conserve energy. It also reduces energy usage, decreases air and water pollution, reduces the volume of trash sent to landfills, and decreases greenhouse gas emissions.

Landfills

In Landfills, waste is buried inside the land and odours and the risk of toxic substances seeping into the ground and contaminating water sources are eliminated.

<https://images.app.goo.gl/4L3h136NArTVj7177>

Incerination

Municipal solid waste which cannot be recycled is burned at a high temperature and hence reduces 80% of its volume. This method is used to generate heat, gas and steam for power.

Sarha Khan

DEPARTMENT OF ZOOLOGY E-WASTE MANAGEMENT

NARESH KUMAR KANAK
BIOLOGICAL SCIENCES

WHAT IS E-WASTE?

E-waste, also known as e-trash or e-scrap, is the waste generated from electronic devices. They are discarded, non-working electronic products that are waiting or at the end of their "useful life". Some of the electronic electronic products are computers, televisions, VCRs, stereo systems, and fax machines.

LIST OF COMMON E-WASTE ITEMS

- TELEVISIONS**: Cathode ray tube televisions, LCD televisions, plasma televisions, etc.
- COMPUTERS & PERIPHERALS**: Desktop computers, laptop computers, monitors, keyboards, mice, etc.
- CELLULAR DEVICES**: Mobile phones, pagers, etc.
- OFFICE & MEDICAL EQUIPMENT**: X-ray machines, ultrasound machines, etc.

TOXIC CONSTITUENTS IN E-WASTE

Category	Substances
Lead and cadmium	Lead, Cadmium
Mercury	Mercury
Chromium and Ni	Chromium, Nickel
Polymers	Polymers
Fluorinated flame retardant	Fluorinated flame retardant
PCB	Polychlorinated biphenyls
PCB	Polychlorinated biphenyls

What happens to Devices at the End of their Useful Life?

When a device reaches the end of its useful life, it is often discarded in a landfill. This is a problem because these devices contain toxic substances that can leach out and contaminate the soil and water.

EFFECTS OF E-WASTE TOXINS

E-waste toxins have adverse effects on human health, aquatic life, and the environment.

SO HOW DO WE MANAGE E-WASTE?

To manage e-waste, an appropriate disposal of wastes is very essential. Industries must follow proper methods to dispose e-waste.

CONCLUSION

E-waste is a growing problem that needs to be managed properly. It is important to raise awareness about e-waste management and to implement effective policies to reduce e-waste.

BIBLIOGRAPHY

1. Kumar, N. (2018). E-waste management: A review. *Journal of Environmental Management*, 215, 1-10.

2. Sharma, A. (2019). E-waste management: A review. *Journal of Environmental Management*, 230, 1-10.

3. Singh, R. (2020). E-waste management: A review. *Journal of Environmental Management*, 250, 1-10.

TanviAmonkar



FranzilaCrasto



Giselle Fernandes

Department of zoology
Ways of managing waste.
Name: Giselle fernandes
Roll no: SU190065
Class: SY.BSc



Lavina Gama

DEPARTMENT OF ZOOLOGY

PREVENTION OF POLLUTION DUE TO MEDICAL WASTE

LAVINA GAMA -SYBSC -SU190235



"The Medical Waste Pool Study", by Environmental Protection Agency
Downloaded under CC BY-SA 4.0

Managing the medical waste disposal is one of the major challenges faced by healthcare field. Medical waste is a waste that contains infectious material generated by healthcare facilities, there are different types of medical waste:biomedical,clinical, healthcare, biohazardous.



"Medical Waste Management Facility, (GPO)"
Downloaded under CC BY-SA 4.0

Medical waste is the byproduct of healthcare industries. Some of the examples of the waste:sharps,radioactive,infectious,potential,chemical,pharmaceutical. Medical waste is disposed by either off-site(landfill, incinerator) or on-site(hospital).



"Medical waste management facility, (GPO)"
Downloaded under CC BY-SA 4.0

Medical waste is treated by incineration, autoclaving, microwaving, chemically and biologically. If the waste is not treated properly it can cause several health hazards to the health care employees and general public. These waste can cause diarrhea, infection, allergies. Medical waste is generated by private physician, retail health clinics, hospitals , veterinary and laboratories.

Medical waste is any contaminated byproduct generated from medical services. Poor management of medical waste exposes health care workers, patients and general public to infection, toxic effects and increases the environmental pollution.

Healthcare waste management can be achieved by proper handling, storing, transporting, treatment and disposal of waste. Raising awareness of the risks pertaining improper disposal of this medical waste amongst people might help to some extent. Support from the government in managing this waste is also needed.

Waste generated during treatment, chemicals and infectious waste can cause land and soil pollution. The biomedical waste dumped in low lying areas can contain liquid wastes that can leach into the ground causing ground water pollution.

AkshayVelguenkar

SEWAGE WASTE MANAGEMENT [DEPARTMENT OF ZOOLOGY]
Paper- SEC-WASTE MANAGEMENT [2020-2021]

INDUSTRIAL EFFLUENTS

- After treatment, the treated industrial wastewater (or effluent) may be reused or released to a sanitary sewer or to a surface water in the environment.
- minimize wastewater production or to recycle treated wastewater within the production process.

Origin of sewage

WASTE MANAGEMENT
 Sewage is water-carried wastes, in either solution or suspension that flow away from a community. It is also known as waste water flows or used water supply of the community.

- Composting**
 If you're looking for the greenest way of disposing of food waste, composting is the answer. You can pick up a small compost bin to sit in your kitchen to house things like egg shells, coffee grounds, tea bags, potato peels or leftover food on a plate.
- Waste disposal company**
 A popular way of getting rid of food scraps is to use a garbage disposal located under your kitchen sink. Call a waste disposal company for more information on having one installed.
- Animals**
 If you live in an area where you can keep farm animals like pigs or goats, you'll have very little food waste. Of course, they can't be fed everything, but animals will eat many items that usually end up in the garbage.

KITCHEN

SEWAGE TREATMENT PLANTS

When used water is eventually discharged back into natural water as it benefits ecosystems, improving streamflow, nourishing plant life and recharging aquifers, as part of the natural water cycle.

Recycled water is used irrigation of gardens and agricultural fields or replenishing surface water and groundwater (i.e., groundwater recharge). Recycled water may also be directed toward fulfilling certain needs in residences (e.g. toilet flushing), businesses, and industry, and could even be treated to reach drinking water standards. This last option is called either "direct potable reuse" or "indirect potable reuse," depending on the approach.

REUSE THE PAST, RECYCLE THE PRESENT, SAVE THE FUTURE

References:

1. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>
2. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>
3. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>
4. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>
5. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>
6. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>
7. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>
8. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>
9. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>
10. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>
11. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>
12. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>
13. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>
14. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>
15. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>
16. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>
17. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>
18. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>
19. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>
20. Retrieved from <https://www.epa.gov/epaosper/indus/water-reuse/induswaterreuse.cfm>

Krutitika Jan

Department of Zoology

'Bio-medical Waste Management'

Name: Krutika Jain, SEC paper: Waste Management Techniques, Year- 2020-21, Class- S.Y. B.Sc., Roll No.- SU190191

ABSTRACT Bio-medical waste poses threat not only to public health but also to the environment. The amount of biomedical waste is increasing due to different factors such as high population levels, new innovations in the field of subfield of some diseases such as Covid-19 virus, deteriorating health of people and demand for large quantity of intervention and diagnosis. Safe and reliable disposal of waste is of paramount importance to reduce the risk of infection from waste and its treatment practices. The control of biomedical waste management (BMW) norms regulate the channel of waste generated. Globally, greatest emphasis is the fair field in required to develop new techniques for treatment and disposal to reduce generation of waste.

INTRODUCTION

What is Bio-medical waste?

BMW is any waste, which is generated during the diagnosis, treatment or examination of human beings or animals or in research in any of the biological or in health camps.

In the waste generated detrimental?

This waste can harm humans while waste is hazardous and infectious.

Generators of bio-medical waste-

Hospitals, nursing homes, clinics, colleges, bio-beds, medical shops and even domestic areas.

Risk due to Bio-medical waste-

If waste is not disposed after proper treatment it can be seen as major source of pollution, some examples are:-

1. Source of soil pollution as the waste more disposal areas and incinerators, thus presence of heavy metals, including changes in the chemistry and biocides of soil.
2. Disposal of waste, which causes the growth and multiplication of insects, pests and viruses which leads to the spread of diseases, typhoid and etc.
3. Biting of bio-medical waste and other harmful germs in the environment, affecting the air quality.
4. Carcinoma from dump trash out to water bodies, making it unfit to consume.

Bio-medical waste management

- As we know it is very clear that if bio-medical waste generated is not released into environment after proper treatment, it will lead to a great disaster, not only to humans with human Mo but also other organisms in the area.
- So proper handling and disposal of bio-medical waste is important, it is the responsibility of every individual involved in the process from generation to disposal.

MANAGEMENT OF BIO-MEDICAL WASTE

The safe and the convenient disposal of pollution generated by bio-medical waste is managing the waste from the point of generation to the treatment and disposal. The major responsibility of the situation is on medical health workers and other health care research centers staff but domestic waste can be also a source for bio-medical waste and this proper waste management should be done by people.

Other than waste management, the source of origin of waste, the waste is applicable to bio-medical waste, but waste is not found to be distributed below as other treatment. Animal and human waste waste difficult to separate, unless they are separated as following. Therefore, segregation plays an important role in waste management.

Another important area that is to minimize the waste generation, to reduce this goal such as reducing, recycling, using separate chemical and pharmaceutical waste management can be taken.

BW in India, WHO also plays a vital important role in country regarding waste management. India was the first country to implement the WHO guidelines in year 1996 introduced in India in 2001, 2003, 2005.

The quantity of waste produced daily in every country is different, waste health care is considerable. In the country, annually 8.31 tons of biomedical waste is generated and one region takes 0.12 kg per bed per day. The ratio varies different technology of disposal and waste management in the complete of bio-medical waste.

There were five categories in the first phase were first collected in India. The BMW rules of 2003, categorized the entire waste in the disposal waste from different categories. The categories are as follows, which are indicated waste such as human, animal waste, chemical waste, and includes recyclable waste, sharps waste, which includes the waste, this waste to give waste and specific disposal.

WASTE MANAGEMENT OF BIO-MEDICAL WASTE

Segregation The step is to separate hazardous from non-hazardous waste, followed by segregation of waste to disposal treatment, specific rules are followed based on type of waste.

Package Packaged into bags or containers of specified size, color, the package is then labeled with type of waste, date of generation and so on.

Storage The containers of waste biomedical waste should be stored in a secure facility until transport the waste from the facility.

Treatment methods Different methods are employed based on type of wastes. The processes involved can be thermal, biological or chemical, common treatments are deep incineration, autoclave.

SIGNIFICANCE AND CONCLUSION

The management of bio-medical waste is of paramount importance for avoiding infectious and environmental pollution that is, a efficient management is not only a health necessity but also a social responsibility.

The bio-medical waste management practices in a country are guided by bio-medical waste management rules. To have better implementation of rule, the health workers should be given proper training.

The three main steps segregation, packaging and transport should be practiced in a strict manner. This can be followed by proper treatment and disposal methods, such as incineration, autoclave, etc. The current situation of Covid-19 has worsen the situation regarding the bio-medical waste. Waste can be contained in domestic bio-medical waste which needs to be disposed properly.

REFERENCES

1. <https://www.who.int/news-room/fact-sheets/detail/bio-medical-waste-management>
2. <https://www.who.int/news-room/fact-sheets/detail/bio-medical-waste-management>
3. <https://www.who.int/news-room/fact-sheets/detail/bio-medical-waste-management>
4. <https://www.who.int/news-room/fact-sheets/detail/bio-medical-waste-management>
5. <https://www.who.int/news-room/fact-sheets/detail/bio-medical-waste-management>
6. <https://www.who.int/news-room/fact-sheets/detail/bio-medical-waste-management>
7. <https://www.who.int/news-room/fact-sheets/detail/bio-medical-waste-management>
8. <https://www.who.int/news-room/fact-sheets/detail/bio-medical-waste-management>
9. <https://www.who.int/news-room/fact-sheets/detail/bio-medical-waste-management>
10. <https://www.who.int/news-room/fact-sheets/detail/bio-medical-waste-management>

ShanayaPhalDesai

WASTE MANAGEMENT AT HOME

SHRI PARVATIBAI CHOWGULE COLLEGE OF ARTS AND SCIENCE
DEPARTMENT OF ZOOLOGY
PAPER- CA2 SEC WASTE MANAGEMENT 2020-2021

Name- Shanaya S Phal Desai
Roll.no- SU1901288
SYBSC

Types of Household waste:

- 1) Liquid waste** includes dirty water, waste detergents, organic liquid and also rainwater.
- 2) Solid waste**
 - Plastic waste** - bags, jars, containers, flower pots, bottles, and many other plastic products
 - Paper waste** - newspapers, cardboards, packaging materials, and other products
 - Metals and tins**- packaging tins, utensils, Glass and Ceramics- serving dishes, glasses, plates, home decors.
 - 3) Organic waste**- It includes garden waste, food waste, anything that is biodegradable

Did you know?
The annual value of food waste globally is \$1 trillion, and it weighs 1.3 billion tonnes

How does our waste harm the environment?

- **Landfills**- the wastes taken by the municipality are dumped into landfills. Sometimes the hazardous substances gets leached down through the layers of soil and pollutes the ground water. Soil pollution is another major impact of landfills.
- **Incineration**- controlled burning of waste. Many waste items incinerated releases toxic gases into the environment.

How else can you help?
It is responsibility of the citizens and not only of the authorities of the proper disposal of the waste.

- Non - biodegradable needs to be properly segregated before disposal.
- Encourage awareness about proper segregation and disposal, recycle-able waste, composting and re-using among the neighbours

HOW CAN YOU MAKE WEALTH OUT OF YOUR WASTE?

COMPOSTING

Composting is an alternative for organic waste, transforming it into organic fertilizer that can be used as agricultural nutrients, avoiding its disposal in landfills.

composting can be done at various places ranging from your kitchen, balcony, terrace or road.

- **Segregate your waste** - into dry- newspapers, packaging materials, saw dust, dried leaves and wet waste- peels, leftovers cooked food, rotten vegetables and fruits or used tea powder.
- **Select a container** - it can be anything, from a bucket to a normal dustbin or a garden pot.
- **Drill some holes** in the pot for aeration.
- Layer the bottom layer of the pot with dry leaves and soil.
- To maintain the dry waste and wet waste balance, add food waste and wet waste of alternate levels in the pot.
- To aid the process you can use **earthworms** which you can find outside in your garden.
- **Keep turning** your compost for enough aeration and sprinkle water if the compost gets too dried off.
- Your compost will be ready to use in 3-2 months as nature is healthy growing plants.

Did you know?
By segregating, recycling and composting, a family of 4 can reduce their waste from 1800 kg to less than 100 kg every year

Reuse

Re-use is a great alternative than just disposing away the unwanted things. One can reuse glass jars to store things, reuse plastic bags, old clothes or toys which is no longer in use can be donated to the needy ones or orphanages

Recycle

Recycle your news papers, glass, card boards, metals and any other recycle-able waste.

Re-create

An addition to the 3 R's. Re-creating new items from the old unwanted products.

- Old cans or plastic bottle can be used as plant holders
- Old clothes can be used to make cloth bags.

References

1. <https://www.bbc.com/news/health-55444444>

2. <https://www.who.int/news-room/fact-sheets/detail/land-use-change-and-forests>

3. <https://www.epa.gov/landmanagement/landfills>

4. <https://www.epa.gov/landmanagement/incineration>

5. <https://www.epa.gov/landmanagement/composting>

6. <https://www.epa.gov/landmanagement/recycling>

7. <https://www.epa.gov/landmanagement/reuse>

Reuse the past, Recycle the present, Save the future!

Kusbhu Yadav

Management of Solid Waste

Shri. Parvatibai Chowgule College of Arts and Science, Dept. of Zoology(S.Y)
BSC SEC-Waste Management Kusbhu Devi Yadav- SU190127

Causes of solid waste pollution are many.
Every day tons of solid wastes are thrown away at various landfills. These wastes come from various places such as homes, shops, companies, industrial establishments, construction and demolition activities.

One of the major causes of solid waste pollution can be attributed to various industries that manufacture numerous products. The actual amount of waste generated may vary by countries.

SOLID WASTE MANAGEMENT

Due to improper disposal of solid waste particularly by waste management organizations, the collected waste gets heap up and become a problem for both the environment and also for the public.

CONCLUSION: The most important reason for waste collection is the protection of the environment and the health of the population. Rubbish and waste can cause air and water pollution. Rotting garbage is also known to produce harmful gases.

REFERENCE: 1)Solid waste management / Definition, Methods, Importance, & Facts. Encyclopedia Britannica. (2020). Retrieved 1 December 2020, from <https://www.britannica.com/technology/solid-waste-management>

2)Solid Waste Management: Types with Methods and its Effects. BYJUS. (2020). Retrieved 1 December 2020, from <https://byjus.com/biology/solid-waste-management/>

Poster Maker

MuskaanPattengourder

WASTE SEGREGATION

Muskaan Pattengourder
SU190115
SYBSC Zoology

BIODEGRADABLE

Wet Waste

NON-BIODEGRADABLE

Dry Waste

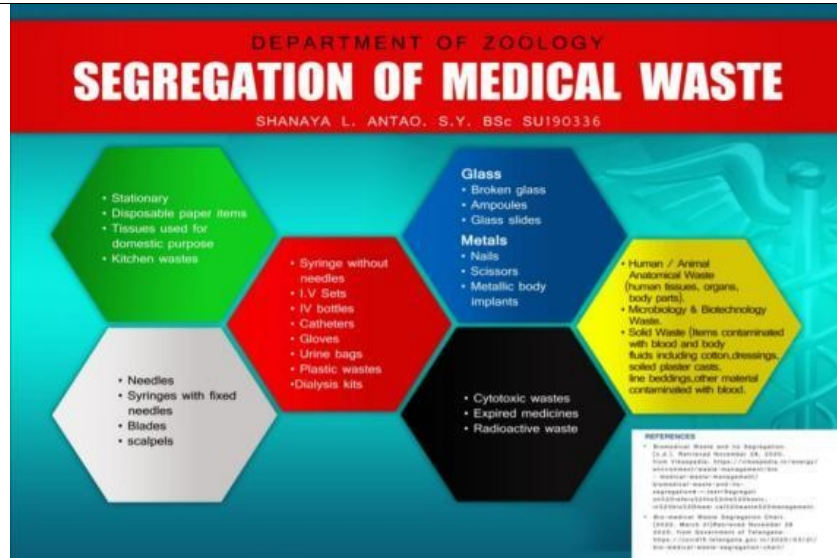
Materials which decompose by the action of microorganism

Material which cannot be broken down by natural organism and act as a source of pollution

SAY NO TO MIXED WASTE FOR CLEAN AND GREEN ENVIRONMENT

- Organic waste can be composted
- Plastic paper and metal can be reused and sold to scrap dealers for recycling
- The amount of waste that goes to landfill site is reduced considerably.

ShanayaAntao



ORGANICCOMPOSTING: Organic composting mainly reduces the amount of organic waste generated. It cuts down the usage of chemical fertilizers and is used to remediate soils contaminated by hazardous waste. The students were explained the basic concept of organic composting and were given instructions on how to prepare kitchen compost effectively at home. The main aim of this activity was to encourage the students to use and promote organic composting as an ideal way of managing kitchen waste.





HANDMADE PAPER : As handmade papers are made from recycled papers, it is an effective method of decreasing the amount of waste generated. The use of recycled paper also reduces the number of trees cut down and promotes sustainable development. Handmade paper can be used to make diverse products such as bags, diaries, envelopes, packaging, office accessories and even cards. The students were given instructions on the process of handmade paper and encouraged to create various products using it. The main aim of this activity was to promote recycling paper and reduce the amount of waste generated.

PROCEDURE OF MAKING HANDMADE PAPER







Parvatibai Chowgule College of Arts and Science

Autonomous

Accredited by NAAC with Grade 'A' (CGPA Score 3.41 on a 4 Point Scale in 3rd cycle)

Best affiliated College-Goa University Silver Jubilee Year Award

GREEN INITIATIVES / ENVIRONMENT PROTECTION INITIATIVES -2020-2021

BY

STUDENTS OF SEC COURSE ON WASTE MANAGEMENT TECHNIQUES

Guiding teachers: Dr. Nandini Vaz Fernandes, Ms. MadhuBalekai, Ms. Tessa Vaz & Ms. Gautami Manakikar

ORGANICCOMPOSTING: Organic composting mainly reduces the amount of organic waste generated. It cuts down the usage of chemical fertilizers and is used to remediate soils contaminated by hazardous waste. The students were explained the basic concept of organic composting and were given instructions on how to prepare kitchen compost effectively at home. The main aim of this activity was to encourage the students to use and promote organic composting as an ideal way of managing kitchen waste.





HANDMADE PAPER : As handmade papers are made from recycled papers, it is an effective method of decreasing the amount of waste generated. The use of recycled paper also reduces the number of trees cut down and promotes sustainable development. Handmade paper can be used to make diverse products such as bags, diaries, envelopes, packaging, office accessories and even cards. The students were given instructions on the process of handmade paper and encouraged to create various products using it. The main aim of this activity was to promote recycling paper and reduce the amount of waste generated.

PROCEDURE OF MAKING HANDMADE PAPER







Parvatibai Chowgule College of Arts and Science
Autonomous

Accredited by NAAC with Grade 'A' (CGPA Score 3.41 on a 4 Point Scale in 3rd cycle)
Best affiliated College-Goa University Silver Jubilee Year Award

<u>REPORT OF MANGROVE DAY CELEBRATION</u>	
Title:	Mangrove day Celebration
Date and year:	26 th July 2021
Resource person	Department Of Zoology
Organising Committee	Department of Zoology And Mangrove Society of India
No. of Participants	15
Objective	To spread awareness on the importance of mangrove diversity.
Summary of the proceedings	<p>Department of Zoology organised competitions for the students on the occasion of World Mangrove Day on 26th July, 2021 in association with Mangrove Society of India. Slogan writing, Elocution competition and photography competition were organized for students of BSC Zoology.</p> <p>Winners of the competitions:</p> <ol style="list-style-type: none">Slogan Competition: The theme of the competitions was "Conservation of Mangrove ecosystem". Best slogan: Ms. Shanaya Phal Desai – SYBSc ZoologyElocution competition: Topic: 1. Threats to mangrove ecosystem. 2. Importance of Mangrove. 3. Issues and challenges of mangrove conservation. Best elocution: Ms. Shanaya Phal Desai – SYBSc ZoologyPhotography Competition: Theme "Mangrove Fauna" Best photograph: Ms Antara Poi Raiturker- TYBSc Zoology
Photographs	



DEPARTMENT OF ZOOLOGY
IN ASSOCIATION WITH
MANGROVE SOCIETY OF INDIA

MANGROVE DAY CELEBRATION-2021

SLOGAN WRITING COMPETITION

THEME: CONSERVATION OF MANGROVE ECOSYSTEM

1. Number of entries per participant: 01
2. The slogan must illustrate and emphasize on the theme.
3. The entries must be submitted in A3 size paper.
4. The slogan must be short, creative and original.

LAST DATE OF SUBMISSION: 24TH JULY 2021
SUBMIT THE SLOGAN AS A SOFT COPY TO ZOOLOGY@CHOWGULES.AC.IN



Parvatibai Chowgule College of Arts & Science (Autonomous)
Accredited by U.A.C. with Grade 'A' (CGPA of 3.40 on a 4 point scale)
Best Affiliated College Goa University, Silver Jubilee Year Award



DEPARTMENT OF ZOOLOGY
IN ASSOCIATION WITH
MANGROVE SOCIETY OF INDIA

MANGROVE DAY CELEBRATION-2021



PHOTOGRAPHY & COMPETITION

THEME: MANGROVE FAUNA

1. NUMBER OF ENTRIES PER PARTICIPANT: 01
2. SIZE OF THE PHOTOGRAPH: A4 (PORTRAIT/LANDSCAPE SHOTS ACCEPTED)
3. ADD A SUITABLE CAPTION FOR THE PHOTOGRAPH BASED ON THE THEME.

LAST DATE OF SUBMISSION: 24TH JULY 2021



Parvatibai Chowgule College of Arts & Science (Autonomous)
Accredited by NAAC with Grade 'A' (U.P.A. of 5.42 on a 4 point scale)
Best Affiliated College Goa University, Silver Jubilee Year Award



DEPARTMENT OF ZOOLOGY
IN ASSOCIATION WITH
MANGROVE SOCIETY OF INDIA

MANGROVE DAY CELEBRATION-2021

ELOCUTION COMPETITION

1. Make a video on any one topic from the list mentioned.
2. Video should not exceed 01 minute.
3. The video can be in English/Konkani/Marathi.

TOPICS:

1. THREATS TO MANGROVE ECOSYSTEM
2. IMPORTANCE OF MANGROVES
3. ISSUES AND CHALLENGES OF MANGROVE CONSERVATION



LAST DATE OF SUBMISSION: 24TH JULY 2021
SUBMIT THE VIDEO TO ZOOLOGY@CHOWGULES.AC.IN



Parvatibai Chowgule College of Arts and Science

Autonomous

Accredited by NAAC with Grade 'A' (CGPA Score 3.41 on a 4 Point Scale in 3rd cycle)

Best affiliated College-Goa University Silver Jubilee Year Award

GREEN INITIATIVES / ENVIRONMENT PROTECTION INITIATIVES -2020-2021

BY

STUDENTS OF SEC COURSE ON WASTE MANAGEMENT TECHNIQUES

Guiding teachers: Dr. Nandini Vaz Fernandes, Ms. MadhuBalekai, Ms. Tessa Vaz & Ms. Gautami Manakikar

HANDMADE PAPER : As handmade papers are made from recycled papers, it is an effective method of decreasing the amount of waste generated. The use of recycled paper also reduces the number of trees cut down and promotes sustainable development. Handmade paper can be used to make diverse products such as bags, diaries, envelopes, packaging, office accessories and even cards. The students were given instructions on the process of handmade paper and encouraged to create various products using it. The main aim of this activity was to promote recycling paper and reduce the amount of waste generated.

PROCEDURE OF MAKING HANDMADE PAPER





HANDMADE PAPER – BY STUDENTS



NSS ACTIVITY REPORT

Parvatibai Chowgule College of Arts and Science, Autonomous

- **Title of the Activity:** Sapling plantation on the occasion of World Environment Day
- **Date:** 05th June 2021

NSS volunteers clicked a Photo/recorded a Video while planting the sapling and shared it on the social media platform.

Student Volunteers	Male	Female	Total
	15	89	104

Some of the screenshots of the Photo/Video shared on social by by NSS volunteers while planting the sapling







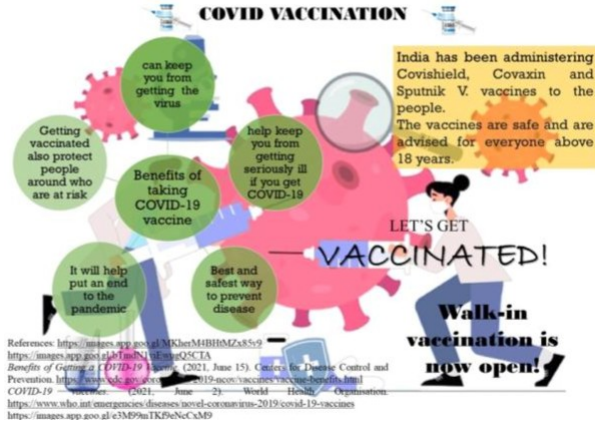
Report made by: **Dr. Mayuri Naik, NSS Programme Officer**



Parvatibai Chowgule College of Arts and Science
Autonomous

Accredited by NAAC with Grade 'A' (CGPA Score 3.41 on a 4 Point Scale in 3rd cycle)
Best affiliated College-Goa University Silver Jubilee Year Award

Title:	Departmental activity	
Date and year:	20/06/2021- 22/06/2021	
Resource person/s:	Department of Zoology	
No. of Participants	31	
Objective:	To sensitise the students on the importance of wildlife, Covid vaccination and wildlife trade.	
Summary of the proceedings	<p>Department of Zoology organised competitions for the students as a part of departmental activity in the month of June from 20-06-2021 to 22-06-2021. Photography, poster and painting competitions were organized, in which 15 students actively participated. The theme of the competitions were ' My backyard wildlife', 'Importance on covid vaccination' and 'wildlife Trade' respectively.</p> <p>Winners of the competitions:</p> <p>Photography Competition: 1st place: Mr. Akshay Velguenkar- SYBSc 2nd place: Ms. Ferzeen Shaikh- TYBSc 3rd place: Ms. Antara Poi Raiturkar-TYBSc</p> <p>Painting competition: Best painting: Lizanne Cardozo, SY BSc E-Poster Competition: Winner:Radha Shirsat - SYBSc</p>	
Photographs	Name of the participant	Photograph
	1st place: Mr. Akshay Hanumanth Velguenkar	
	2nd place: Ms. Ferzeen Shaikh	

	3rd place: Ms. Antara Poi Raiturker	
	Painting competition: Winner Lizanne Cardozo- SYBSc	
	E-poster Competition: Winner Radha Shirsat- SYBSc	 <p>COVID VACCINATION</p> <p>can keep you from getting the virus</p> <p>help keep you from getting seriously ill if you get COVID-19</p> <p>Benefits of taking COVID-19 vaccine</p> <p>Getting vaccinated also protect people around who are at risk</p> <p>It will help put an end to the pandemic</p> <p>Best and safest way to prevent disease</p> <p>India has been administering Covishield, Covaxin and Sputnik V vaccines to the people. The vaccines are safe and are advised for everyone above 18 years.</p> <p>LET'S GET VACCINATED!</p> <p>Walk-in vaccination is now open!</p> <p>References: https://images.app.goo.gl/MK8etM4B8H0GZs85v9 https://images.app.goo.gl/1a0N18E8wvQ5CTA Benefits of Getting a COVID-19 Vaccine (2021, June 15). Centers for Disease Control and Prevention. https://www.cdc.gov/media/releases/2021/s0615-covid-19-vaccine-benefits.html COVID-19 vaccines (2021, June 23). World Health Organization. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/covid-19-vaccines https://images.app.goo.gl/e3M99mTKF9eNcCxm9</p>

Report of World Environment Day

NSS unit of Parvatibai Chowgule College of Arts and Science, Autonomous organised Poster making event for NSS volunteers on the occasion of “**World Environment Day**” on 5th June 2020. The main theme for the event was “Time for Nature” with sub themes being a) Environmental Awareness, b) Man-Environment relationship and c) Changing Environment and Natural disaster. Total 26 posters were received from 25 NSS volunteers (23 female and 02 male) who participated in this event.

Dr. Nandkumar Sawant was invited as a Resource Person and delivered a talk on **Rejuvenating the coastal landscape** at the international webinar on Time for Nature, Post COVID-19 challenges to environmental challenges, organized by CHEC – INDIA, Jaipur on 5th June, 2020 on the eve world environment day.

Dr. Nandkumar Sawant was invited as a Resource Person and delivered a talk on Perspectives of Sustainable Tourism on 9th June 2020 organised by Shristi Nature club, PES College, Farmagudi.

Dr. Mayuri M. Naik, NSS Programme Officer conducted a 2 hour online workshop on **Swachhta and Jalshakti** (Under Online Workshop on Swachhta Action Plan, an initiative by Mahatma Gandhi National Council of Rural Education) for NSS volunteers on 23rd June 2020. Total 24 NSS volunteers (24 female, 0 male) participated in this online workshop.





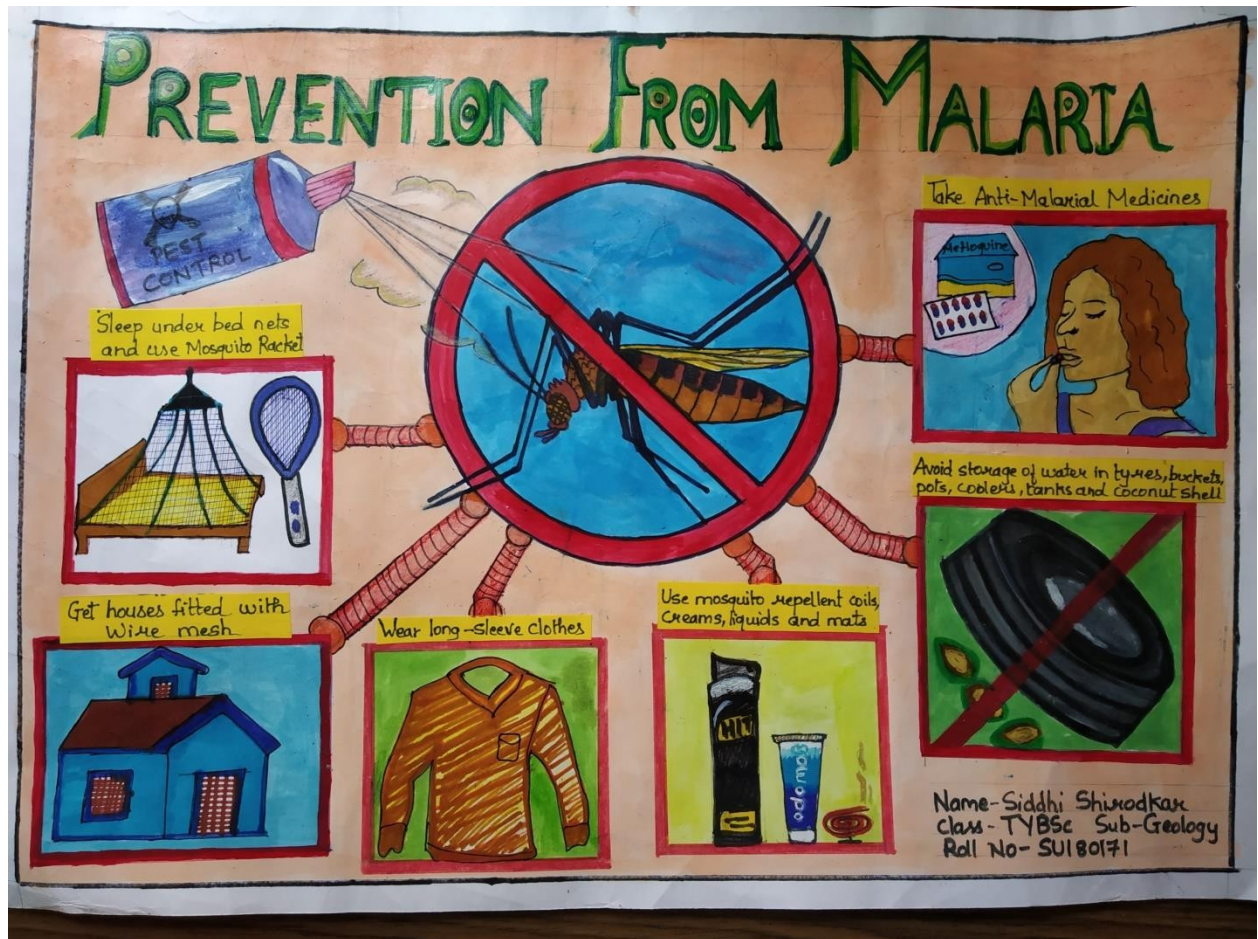
Report- Posters on Vector borne diseases

Date of submission:09/10/2020

NSS Volunteers participated- 37

Female- 37

Male- NIL



VECTOR BORNE DISEASE DENGUE



What is Dengue?

It is an infectious disease transmitted by a female mosquito.

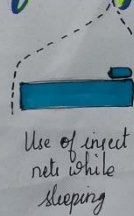


ONE BITE
THREAT TO
life

Symptoms



Simple measures to protect you & your family



Spray To Kill




yukta Dicholkar
S.Y.B.Sc. Chemistry
SU190039



Parvatibai Chowgule College of Arts and Science
Autonomous

Accredited by NAAC with Grade 'A' (CGPA Score 3.41 on a 4 Point Scale in 3rd cycle)
Best affiliated College-Goa University Silver Jubilee Year Award

<u>REPORT OF FACULTY PARTICIPATION</u>	
Title:	'Bird Walk'
Date and year:	05 th to 07 th February 2021
Organising Committee	Goa Forest Department
No. of Participants	25
Objective	To expose students to various birds found at carambolim and maina Curtorim.
Summary of the proceedings	Dr. Nandini Vaz Fernandes and Mr. Stephen Dias, Department of Zoology coordinated the 'Bird Walk' organised by Goa Forest Department from 05 th to 07 th February 2021. Bird walks were conducted at two sites viz. Carambolim Lake and Curtorim-Raia Lake (Maina-Curtorim Wetland Complex). Mr. Stephen Dias, Ms. Gautami Manakikar, Ms. Prasanna Naik Gaonkar and Ms. Pratibha Tripathi conducted the birdwalks for the general public on behalf of the forest department.
Photographs	
	





Parvatibai Chowgule College of Arts and Science
Autonomous

Accredited by NAAC with Grade 'A' (CGPA Score 3.41 on a 4 Point Scale in 3rd cycle)
Best affiliated College-Goa University Silver Jubilee Year Award

<u>REPORT OF FACULTY PARTICIPATION</u>	
Title:	Pre-Bird Festival Webinars'
Date and year:	29 th to 31 st January 2021
Organising Committee	Goa Forest Department
Resource person:	Dr. Nandini Vaz Fernandes Parag Ragnekar Amit raj Golda DaCosta Shalma Mascarenha Pronoy Baidya Jalmesh Karapurkar
No. of Participants	60
Objective	To understand the biodiversity conservation-prospects and challenges
Summary of the proceedings	Dr. Nandini Vaz Fernandes, Associate Professor, Department of Zoology was invited as a resource person by Forest Department, Govt. of Goa, for the 'Pre-Bird Festival Webinars' organised from 29 th to 31 st January 2021. Her session on "Introduction to Birdwatching" was the opening session of the Pre-bird festival, which was live streamed for general public all over Goa. The Pre-Bird Festival was organised by Forest department as an initiative to create awareness on the importance of bird conservation and to share the knowledge of various birds and their role in the environment and the benefits of birding

Photographs



Goa Forest Department

Presents

Pre-Bird Festival Webinars

29 Jan- 01 Feb 2021



Dr. Nandini Vaz Fernandes
An Introduction to Birdwatching
29 Jan-15:30-16:30



Parag Rangnekar
Bird Diversity of Goa and its
potential as a bird tourism hotspot
29 Jan-16:30-17:30



Shalma Mascarenhas
Endemic Birds of Western Ghats
in Goa
30 Jan-15:30-16:30



Amit Raj
Birds in Reels
30 Jan-16:30-17:30



Pronoy Baidya
Birding for a Better Tomorrow
31 Jan-16:30-17:30



Golda D'Costa
Wetland Birds of Goa
01 Feb-15:30-16:30



Jalmesh Karapurkar
Denizens of the Night: Night
Birds of Goa
01 Feb-16:30-17:30

Image: Colleen O'Dell



Goa Forest Department

Presents

Pre-Bird Festival Webinars

29 January 2021



Dr. Nandini Vaz Fernandes
An Introduction to Birdwatching
15:30-16:30



Parag Rangnekar
Bird Diversity of Goa and its
potential as a bird tourism hotspot
16:30-17:30

Live Streaming on



<https://www.facebook.com/100180528770151/live/>

Image: Colleen O'Dell