

SYLLABUS/
CURRICULUM



PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE

(Approved by AICTE & Affiliated to Anna University, Chennai)

Madurai - Sivagangal Highway, Arasanoor, Thirumansolai Post, Sivagangai Dt. - 630 561, Tamilnadu
Mobile : 9842102628, 7373002628 Email: info@psyec.edu.in Website : www.psyec.edu.in

City Office : 10, Pandian Saraswathi St, Sivagami Nagar, Narayanapuram, Madurai - 625 014. Telefax- 0452 2682338, Mobile : 98423-02628

DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2020-2021

VACCE2021PW - Innovations in Plastic Waste Handling and Recycling

OBJECTIVE OF THE COURSE

- To gain comprehensive knowledge and skills in the efficient management of plastic waste, encompassing strategies for reduction, recycling, and responsible disposal, with a focus on environmental sustainability and societal impact.
- To explore innovative approaches and technologies in plastic waste management, including circular economy principles, policy development, and community engagement, to address the global challenge of plastic pollution effectively.

Chapter 1

5

The overview of the global plastic waste crisis - the environment and human health. the lifecycle of plastics, plastic waste production to disposal - the fundamental concepts and terminology of plastic waste management.

Chapter 2

6

Plastic pollution - the pollution effects on ecosystems, marine life, and public health. and case studies, the pollution severity of the issue and the need for effective management strategies in pollution.

Chapter 3

6

proactive approaches - plastic waste at its source. -The various strategies of product redesign, single-use plastic bags, and the promotion of alternative materials. the concept of sustainable consumption and lifestyle choices to minimize plastic consumption.

Chapter 4

6

Providing an in-depth exploration of plastic recycling- the different types of plastics, recycling processes, and challenges in the recycling industry. The emerging technologies - Recycling efficiency - the importance of consumer education - The proper waste segregation to facilitate the recycling process.

Chapter 5

6

Introducing the concept of the circular economy- the importance of designing waste system. innovative approaches in plastic waste management - closed-loop recycling and extended producer responsibility- the resource efficiency and reduce environmental impact.

Chapter 6

6

The role of policy and regulation in shaping plastic waste management practices- international agreements, national policies, and local regulations aimed at reducing plastic pollution and promoting sustainable waste management practices - the challenges and opportunities implementing the enforcing effective policies.

TOTAL HOURS:35


Course-Coordinator


HOD


PRINCIPAL



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DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2020-2021

VACCE2021PW - Innovations in Plastic Waste Handling and Recycling

Course Schedule

Date	Time	TOPICS
07/03/2021	9.00 am to 12.15 pm	The overview of the global plastic waste crisis - the environment and human health, the lifecycle of plastics, plastic waste production to disposal - the fundamental concepts and terminology of plastic waste management.
	1.00 pm to 4.15 pm	
08/03/2021	9.00 am to 12.15 pm	Plastic pollution - the pollution effects on ecosystems, marine life, and public health, and case studies, the pollution severity of the issue and the need for effective management strategies in pollution.
	1.00 pm to 4.15 pm	
09/03/2021	9.00 am to 12.15 pm	proactive approaches - plastic waste at its source. -The various strategies of product redesign, single-use plastic bags, and the promotion of alternative materials. the concept of sustainable consumption and lifestyle choices to minimize plastic consumption.
	1.00 pm to 4.15 pm	
10/03/2021	9.00 am to 12.15 pm	Providing an in-depth exploration of plastic recycling- the different types of plastics, recycling processes, and challenges in the recycling industry. The emerging technologies - Recycling efficiency - the importance of consumer education - The proper waste segregation to facilitate the recycling process.
	1.00 pm to 4.15 pm	
11/03/2021	9.00 am to 12.15 pm	Introducing the concept of the circular economy- the importance of designing waste system: innovative approaches in plastic waste management - closed-loop recycling and extended producer responsibility- the resource efficiency and reduce environmental impact.
	1.00 pm to 4.15 pm	
12/03/2021	9.00 am to 12.15 pm	The role of policy and regulation in shaping plastic waste management practices- international agreements, national policies, and local regulations aimed at reducing plastic pollution and promoting sustainable waste management practices - the challenges and opportunities implementing the enforcing effective policies.
	1.00 pm to 4.15 pm	

Tea Break : FN- 11:00 am to 11:15am & AN-03:00 pm to 03:15 pm

Lunch : 12:15 pm to 01:00pm

Total Hours :35


Course-Coordinator


HOD


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DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2020-2021

VACCE2021PW - Innovations in Plastic Waste Handling and Recycling

One-page Report

Name of the course : **Innovations in Plastic Waste Handling and Recycling**

Development Course Code : **VACCE2021PW**

Course Coordinator : Dr MURALI. V, Professor/Civil

Date/Duration : 07.03.2021 to 12.03.2021— 35 hours

I here affirm that the third-year students of strength 32 have been taught the value-added course title “**Innovations in Plastic Waste Handling and Recycling**” as per the syllabus and completed within the stipulated time duration.

I confirm that the value-added course titled “**Innovations in Plastic Waste Handling and Recycling**” has been conducted in the beginning of the semester and course delivery along with the attendance of the students was recorded.

I confirmed that all the students were actively participated in the course and the eligible students were certified for the course.


Course Coordinator


HOD


PRINCIPAL

ASSESSMENT PROCEDURE

PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE,
ARASANOOR-630561

DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2020-2021

VACCE2021PW - Innovations in Plastic Waste Handling and Recycling

Assessment Questions with Answer

1. What are the main environmental impacts of plastic pollution?
 - a) Soil erosion
 - b) Air pollution
 - c) Degradation of ecosystems**
 - d) Water scarcity

2. How can source reduction strategies help mitigate plastic waste?
 - a) By increasing plastic production
 - b) By promoting single-use plastics
 - c) By minimizing the generation of plastic waste at its origin**
 - d) By banning recycling programs

3. What are the different types of plastic recycling processes?
 - a) Mechanical and electrical recycling
 - b) Chemical and biological recycling**
 - c) Metal and glass recycling
 - d) Paper and cardboard recycling

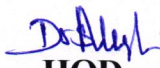
4. How does the circular economy concept apply to plastic waste management?
 - a) By promoting landfill disposal
 - b) By increasing plastic production
 - c) By maximizing waste generation
 - d) By minimizing waste and promoting recycling and reuse**

5. What role do policies and regulations play in plastic waste management?
 - a) They encourage excessive plastic production
 - b) They discourage recycling efforts
 - c) They set standards and guidelines for sustainable waste management**
 - d) They promote pollution

6. What are some innovative technologies for plastic recycling?
 - a) Reuse and landfilling
 - b) Pyrolysis and enzymatic recycling**
 - c) Incineration and ocean dumping
 - d) Exporting and composting

7. How can community engagement contribute to effective plastic waste management?
- a) By ignoring the issue
 - b) By increasing plastic consumption
 - c) By fostering awareness and collective action**
 - d) By promoting littering
8. What are the challenges associated with plastic recycling?
- a) Lack of contamination in recyclable materials
 - b) Abundance of recycling infrastructure
 - c) Limited markets for recycled plastics**
 - d) Successful implementation of recycling programs
9. What are extended producer responsibility (EPR) programs, and how do they contribute to plastic waste management?
- a) They shift responsibility for end-of-life product management to manufacturers, promoting recycling and waste reduction**
 - b) They encourage consumers to dispose of products irresponsibly
 - c) They increase plastic production
 - d) They discourage recycling efforts
10. What are the environmental and health implications of plastic pollution?
- a) Increased bio-diversities and improved public health
 - b) Reduced greenhouse gas emission and cleaner ocean
 - c) Degradation of ecosystem and harm to marine animals**
 - d) Enhanced air quality and soil fertility


Course-Coordinator


HOD


PRINCIPAL

PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE,
ARASANOOR-630561

DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2020-2021

VACCE2021PW - Innovations in Plastic Waste Handling and Recycling

Assessment Test Paper

REGISTER NUMBER: 912018103001

NAME OF THE STUDENT: V. Parthi

9
10

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Course-Cordinator


HOD


PRINCIPAL

Academic Year 2020-2021

Student Performance Sheet

Period of course: 07-03-2021 to 12-03-2021

Duration of Course: 35 hours

VACCE2021IPW- INNOVATIONS IN PLASTIC WASTE HANDLING AND RECYCLING

Sl. No	Register Number	Student Name	Assessment Marks
1	912018103001	AARTHI V	91
2	912018103002	ABIMANYU R	95
3	912018103003	ALAGU MURUGAN A	86
4	912018103004	ANAND A	82
5	912018103005	AYYANAR P	94
6	912018103006	BALAMURUGAN M	95
7	912018103007	BIKASH KUMAR MANDAL	96
8	912018103008	GOKULAKRISHNAN P	98
9	912018103009	HARI HARA SUDHAN P	82
10	912018103010	HARIPRASATH P	91
11	912018103011	KARTHIKEYAN A	86
12	912018103012	KARUPPU SAMY P	95
13	912018103013	MAHA LAKSHMI M	94
14	912018103014	MUGESH K	98
15	912018103015	POORNARAJAN A	88
16	912018103016	PRAVEEN B	89
17	912018103017	PRAVEEN K	91
18	912018103018	RUBINI P	88
19	912018103019	SHALINI M	96
20	912018103020	SHENBAGA PRAVEEN KUMAR M	79
21	912018103021	SOUNDARYA M	81
22	912018103022	SURYA K	89
23	912018103023	SUSMITHA T	78
24	912018103024	VASANTH M	91
25	912018103025	VIGNESH A	95
26	912018103026	YUVARAJ SINGH D	86
27	912018103027	ABINASH BABU N	89
28	912018103028	BALASANKAR G	92
29	912018103029	BHARATHI M	91
30	912018103030	HARI HARAN N	92
31	912018103305	HEMANATHAN K	82
32	912018103306	MUTHUKUMAR K	89

Course Coordinator

HOD

Principal

Enrollment
Student Name
List

PANDIAN SARASWATHI YADAV ENGINEERING COLLEGE, ARASANOOR 630561
DEPARTMENT OF CIVIL ENGINEERING

Academic Year 2020-2021

Student Registration Sheet

Period of course: 07-03-2020 to 12-03-2020


Duration of Course: 35 hours

VACCE2021IPW- INNOVATIONS IN PLASTIC WASTE HANDLING AND RECYCLING

Sl. No	Register Number	Student Name	Signature of the Student
1	912018103001	AARTHI V	V. Arathi
2	912018103002	ABIMANYU R	Abimanya
3	912018103003	ALAGU MURUGAN A	Alagu
4	912018103004	ANAND A	Anand
5	912018103005	AYYANAR P	AYYANAR-P
6	912018103006	BALAMURUGAN M	Balamurugan
7	912018103007	BIKASH KUMAR MANDAL	Bikash
8	912018103008	GOKULAKRISHNAN P	Gokul
9	912018103009	HARI HARA SUDHAN P	HARI HARA SUDHAN P
10	912018103010	HARIPRASATH P	P. Hariprasath
11	912018103011	KARTHIKEYAN A	Karthikeyan
12	912018103012	KARUPPU SAMY P	Karuppu
13	912018103013	MAHA LAKSHMI M	Maha Lakshmi
14	912018103014	MUGESH K	Mugeshk
15	912018103015	POORNARAJAN A	Poornarajan
16	912018103016	PRAVEEN B	Praveen
17	912018103017	PRAVEEN K	Praveen K
18	912018103018	RUBINI P	Rubini
19	912018103019	SHALINI M	Shalini
20	912018103020	SHENBAGA PRAVEEN KUMAR M	Shenbaga
21	912018103021	SOUNDARYA M	Soundarya
22	912018103022	SURYA K	Surya
23	912018103023	SUSMITHA T	Susmitha
24	912018103024	VASANTH M	Vasanth M.
25	912018103025	VIGNESH A	Vignesh
26	912018103026	YUVARAJ SINGH D	Yuvaraj Singh
27	912018103027	ABINASH BABU N	Abinash

28	912018103028	BALASANKAR G	Sankar G.
29	912018103029	BHARATHI M	Bharathi M.
30	912018103030	HARI HARAN N	Hari Haran N.
31	912018103305	HEMANATHAN K	Hemanathan K.
32	912018103306	MUTHUKUMAR K	Muthukumar K.


Course Coordinator


HOD


Principal

STUDENTS ATTENDANCE

25	912018103025	VIGNESH A	Vignesh	Vignesh	Vignesh	Vignesh	Vignesh	Vignesh
26	912018103026	YUVARAJ SINGH D	Yuv	Yuv	Yuv	Yuv	Yuv	Yuv
27	912018103027	ABINASH BABU N	Abinash	Abinash	Abinash	Abinash	Abinash	Abinash
28	912018103028	BALASANKAR G	Bala	Bala	Bala	Bala	Bala	Bala
29	912018103029	BHARATHI M	Bharathi	Bharathi	Bharathi	Bharathi	Bharathi	Bharathi
30	912018103030	HARI HARAN N	N. Haran	N. Haran	N. Haran	N. Haran	N. Haran	N. Haran
31	912018103305	HEMANATHAN K	Heman	Heman	Heman	Heman	Heman	Heman
32	912018103306	MUTHUKUMAR K	K. Muthu	K. Muthu	K. Muthu	K. Muthu	K. Muthu	K. Muthu

Tea Break : FN- 11:00 am to 11:15am & AN-03:00 pm to 03:15 pm

Lunch : 12:15 pm to 01:00pm


Course Coordinator


HOD


Principal

MODEL
CERTIFICATES

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Arasanoor, Thirumansolai Post, Sivagangai – Madurai Highway, Tamilnadu – 630 561

Value added course on

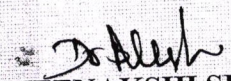
Innovations in Plastic Waste Handling and Recycling

Organized by

DEPARTMENT OF CIVIL ENGINEERING

CERTIFICATE

This is to Certify that AARTHINI from third year students has participated in the value-added course on **Innovations in Plastic Waste Handling and Recycling** by the Department of Civil Engineering from 07.03.2021 to 12.03.2021 (35 Hours) at Pandian Saraswathi Yadav Engineering College, Sivagangai.


Dr. MEENAKSHI SUDARVIZHI
HOD


Dr. R. RAJA
PRINCIPAL

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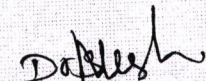
Innovations in Plastic Waste Handling and Recycling

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DEPARTMENT OF CIVIL ENGINEERING

CERTIFICATE

This is to Certify that SURYA.K from third year students has participated in the value-added course on **Innovations in Plastic Waste Handling and Recycling** by the Department of Civil Engineering from 07.03.2021 to 12.03.2021 (35 Hours) at Pandian Saraswathi Yadav Engineering College, Sivagangai.


Dr. MEENAKSHI SUDARVIZHI

HOD


Dr. R. RAJA
PRINCIPAL

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Value added course on

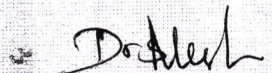
Innovations in Plastic Waste Handling and Recycling


Organized by

DEPARTMENT OF CIVIL ENGINEERING

CERTIFICATE

This is to Certify thatSHALINI M..... from third year students has participated in the value-added course on **Innovations in Plastic Waste Handling and Recycling** by the Department of Civil Engineering from 07.03.2021 to 12.03.2021 (35 Hours) at Pandian Saraswathi Yadav Engineering College, Sivagangai.


Dr. MEENAKSHI SUDARVIZHI
HOD


Dr. R. RAJA
PRINCIPAL