

Date- 01/08/2022

# Hindustan College of Science & Technology

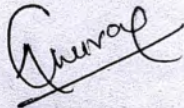
(Farah, Mathura)

## Chemical Engineering Department

### Notice

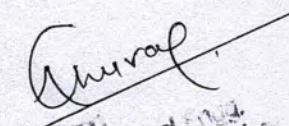
This is for information to all the students of 2<sup>nd</sup> year that the Value Added Course **(Solid Waste Management)** shall begin from 13<sup>th</sup> of Aug. 2022. All the students of 2<sup>nd</sup>, 3<sup>rd</sup> year are directed to register themselves and fill up the registration form in the departments before start of the regular classes for the above courses.

The registration can be done from 5<sup>th</sup> Aug. 2022 up to 10<sup>th</sup> Aug. 2022.

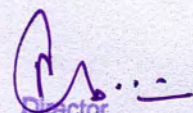


Mr. Anurag Bajpai

Head, Department of Chemical Engineering



Head,  
Department of Chemical Engg.  
Hindustan College of Science & Technology  
Farah, Mathura



Director  
Hindustan College of  
Science & Technology  
FARAH (MATHURA)



**HINDUSTAN COLLEGE OF SCIENCE & TECHNOLOGY,  
FARAH -MATHURA**

**DEPARTMENT OF CHEMICAL ENGINEERING**



*Value Added Course*  
**VAC-1702-Solid Waste Management**

**13<sup>th</sup> Aug, 2022 – 10<sup>th</sup> Dec, 2022 - Every Saturday: 3:10 PM – 4:50 PM**



*By*

*Mr. Sandeep Kumar Verma*  
*Chemical Engineering*

**Registration Dates**

**5<sup>th</sup> Aug 2022 – 10<sup>th</sup> Aug 2022**

**For Registration: Please contact**

**Mr. Raj Kumar, Office Staff, Department of Chemical Engineering**

*Sandeep*  
Head  
Department of Chemical Engg.  
Hindustan College of Science & Technology  
Farah, Mathura

*Raj Kumar*  
Director  
Hindustan College of  
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FARAH (MATHURA)



# HINDUSTAN COLLEGE OF SCIENCE & TECHNOLOGY, FARAH -MATHURA



## DEPARTMENT OF CHEMICAL ENGINEERING

*Value Added Course*

**VAC -1702 -Solid Waste Management**

**13<sup>th</sup> Aug, 2022 – 10<sup>th</sup> Dec, 2022 - Every Saturday: 3:10 PM – 4:50 PM**

### Course Objectives

The main objective of this value added course are as follows:

1. Plan logistics for waste collection and disposal .
2. Formulate strategies for segregation of waste and waste reduction.
3. Plan appropriate recycles facility for heterogeneous wastes.
- 4 Plan and design waste collection systems.

### Course Syllabus

Units	Details	Course Out comes
1	Introduction to waste management Logistics, importance, methods of logistics, human components, technological components- waste handling equipment and technology, and managerial goals, steps in waste management logistics	CO1
2	Waste collection system and organization Environmental aspects of waste collection, role of public authority and private sector in waste collection, organizing collection of residential waste, fee schemes, public awareness programs	CO2
3	Source segregation and collection source-segregated waste, Purpose of source segregation, segregation criteria and guidance, segregation potential and efficiencies, systems for collecting segregated fraction	CO3
4	Waste transfer stations Waste delivery, waste transfer, transportation of the reloaded waste, siting and Design of waste transfer station, economical considerations, recycling solid wastes, materials recovery facilities	CO4

*Anurag*  
Head  
Department of Chemical Engg.  
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*[Signature]*  
Director  
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**HINDUSTAN COLLEGE OF SCIENCE & TECHNOLOGY,  
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**DEPARTMENT OF CHEMICAL ENGINEERING**

*Value Added Course*

**VAC-1702 - Solid Waste Management**

**13<sup>th</sup> Aug, 2022 – 10<sup>th</sup> Dec, 2022 - Every Saturday: 3:10 PM – 4:50 PM**

**Course Outcomes**

- CO1 Plan logistics for waste collection and disposal  
Formulate strategies for segregation of waste and waste reduction.
- CO2
- CO3 Plan appropriate recycles facility for heterogeneous wastes.
- CO4 Plan and design waste collection systems.

**CO-PO Mappings**

COS	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3
CO1	2	3											2		
CO2	2	3											2		
CO3	2			3						2	2	2	2		
CO4			2	3						2	2	2		3	
Average	2	3	2	3						2	2	2	2	3	

**Evaluation Criteria: 1. Evaluation of Practical assignments, Group project, Viva/Quiz**

*[Signature]*  
Head  
Department of Chemical Engineering  
Hindustan College of Science & Technology  
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Director  
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## HINDUSTAN COLLEGE OF SCIENCE & TECHNOLOGY, FARAH -MATHURA

### DEPARTMENT OF CHEMICAL ENGINEERING

*Value Added Course*

**VAC-1702 - Solid Waste Management**



#### Program Schedule

**13<sup>th</sup> Aug, 2022 – 10<sup>th</sup> Dec, 2022 - Every Saturday: 3:10 PM – 4:50 PM**

Session	Date	Time	No of Lectures	Session Topic	Resource Person
1	13-08-2022	3:10 PM – 4:50 PM	2	Topic 1:Logistics, importance, methods of logistics	Dr. Sandeep Kumar Verma
2	20-08-2022	3:10 PM – 4:50 PM	2	Topic 2:human components, technological components	Dr. Sandeep Kumar Verma
3	27-08-2022	3:10 PM – 4:50 PM	2	Topic 3:waste handling equipment and technology	Dr. Sandeep Kumar Verma
4	03-09-2022	3:10 PM – 4:50 PM	2	Topic 4:managerial goals, steps in waste management logistics	Dr. Sandeep Kumar Verma
5	10-09-2022	3:10 PM – 4:50 PM	2	Topic 5:Environmental aspects of waste collection	Dr. Sandeep Kumar Verma
6	17-09-2022	3:10 PM – 4:50 PM	2	Topic 6:role of public authority and private sector in waste collection	Dr. Sandeep Kumar Verma
7	24-09-2022	3:10 PM – 4:50 PM	2	Topic 7:organizing collection of residential waste	Dr. Sandeep Kumar Verma
8	01-10-2022	3:10 PM – 4:50 PM	2	Topic 8: fee schemes, public awareness programs	Dr. Sandeep Kumar Verma
9	08-10-2022	3:10 PM – 4:50 PM	2	Topic 9:source-segregated waste	Dr. Sandeep Kumar Verma
10	15-10-2022	3:10 PM – 4:50 PM	2	Topic 10:Purpose of source segregation	Dr. Sandeep Kumar Verma
11	22-10-2022	3:10 PM – 4:50 PM	2	Topic 11:segregation criteria and guidance	Dr. Sandeep Kumar Verma
12	29-10-2022	3:10 PM – 4:50 PM	2	Topic 12:segregation potential and efficiencies	Dr. Sandeep Kumar Verma
13	05-11-2022	3:10 PM – 4:50 PM	2	Topic 13:systems for collecting segregated fraction	Dr. Sandeep Kumar Verma
14	12-11-2022	3:10 PM – 4:50 PM	2	Topic 14:Waste delivery, waste transfer	Dr. Sandeep Kumar Verma
15	19-11-2022	3:10 PM – 4:50 PM	2	Topic 15: transportation of the reloaded waste	Dr. Sandeep Kumar Verma
16	26-11-2022	3:10 PM – 4:50 PM	2	Topic 16:siting and Design of waste transfer station	Dr. Sandeep Kumar Verma
17	03-12-2022	3:10 PM – 4:50 PM	2	Topic 17:economical considerations, recycling solid wastes	Dr. Sandeep Kumar Verma
18	10-12-2022	3:10 PM – 4:50 PM	2	Topic 18: materials recovery facilities	Dr. Sandeep Kumar Verma
<b>Total Number of Hours covered</b>			<b>36 (30 Hours)</b>		

*Sandeep*  
 Head  
 Department of Chemical Engg.  
 Hindustan College of Science & Technology  
 Farah, Mathura

*[Signature]*  
 Director  
 Hindustan College of  
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 FARAH (MATHURA)

## Value Added Course-2

### Solid Waste Management (VAC-1702)

#### 1. Introduction to waste management:

Logistics, importance, methods of logistics, human components, technological components- waste handling equipment and technology, and managerial goals, steps in waste management logistics.

#### 2. Waste collection system and organization:

Environmental aspects of waste collection, role of public authority and private sector in waste collection, organizing collection of residential waste, fee schemes, public awareness programs.

#### 3. Source segregation and collection:

source-segregated waste, Purpose of source segregation, segregation criteria and guidance, segregation potential and efficiencies, systems for collecting segregated fraction

#### 4. Waste transfer stations:

Waste delivery, waste transfer, transportation of the reloaded waste, siting and Design of waste transfer station, economical considerations, recycling solid wastes, materials recovery facilities.

**Course Outcomes:** At the end of the course, the student will be able to:

1. Plan logistics for waste collection and disposal .
2. Formulate strategies for segregation of waste and waste reduction.
3. Plan appropriate recycles facility for heterogeneous wastes.
- 4 Plan and design waste collection systems.

Head  
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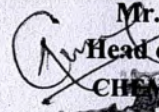
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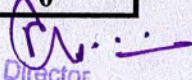
**Hindustan College of Science and Technology - Mathura CHEMICAL ENGG.**

**A. TIME TABLE FOR ODD SEMESTER 2022-23**

<b>SESSION:</b>	2022-23		<b>W.E.F :</b>	20/08/2022	<b>CLASS TEACHER: Mr. Anurag Bajpai</b>			
<b>YEAR/SEM-SEC:</b>	II Year (III Sem)		<b>ROOM.NO :</b>	501	<b>COUNSELLORS : Dr. Sandeep Kumar Verma</b>			
<b>Time / Day</b>	<b>I</b> 10:10 TO 11:00	<b>II</b> 11:00 TO 11:50	<b>III</b> 11:50 TO 12:40	<b>IV</b> 12:40 TO 01:30	<b>V</b> 01:30 TO 02:20	<b>VI</b> 02:20 TO 03:10	<b>VII</b> 03:10 TO 04:00	<b>VIII</b> 04:00 TO 04:50
<b>MONDAY</b>	HTO	ES	CEFM	CSS	<b>LUNCH</b>	TC	Mini Project	
	501	501	501	501		501		
	SKV	RKT	SKV	Atul		KD		
<b>TUESDAY</b>	MEB	PDP		CSS		CEFM	SOFT COMPUTING Lab	
	501			501				
	AB			Atul				
<b>WEDNESDAY</b>	HTO	MEB	CEFM	ES		PDP	CSS 501 Atul	
	501	501	501	501				
	SKV	AB	SKV	RKT				
<b>THURSDAY</b>	CEFM	ES	TC	HTO		HTO Lab		
	501	501	501	501				
	SKV	RKT	KD	AB				
<b>FRIDAY</b>	ES	TC	MEB	CEFM		CEFMLab		
	501	501	501	501				
	RKT	KD	AB	SKV				
<b>SATURDAY</b>	MEB	ES	TC	HTO	VAC-1702			
	501	501	501	501				
	AB	RKT	KD	AB				

Name of the Subject	Subject Code	Name of the Faculty	Total No. of Lect./Tut./Practical in Subject		
			Lect.	Tut.	Pract.
*Technical Communication	KAS 301	Dr. Keshav Dev (KD)	3	1	0
Material and Energy Balance	KCH301	Mr. Anurag Bajpai(AB)	4	1	0
Chemical Engg. Fluid Mechanics	KCH302	Mr. Sandeep Kumar Verma (SKV)	4	1	0
Heat Transfer Operations	KCH303	Mr. Anurag Bajpai/Mr. Sandeep Kumar Verma	4	0	0
*Energy Sciences & Engineering	KOE033	Dr. R K Tiwari (RKT)	3	1	0
Mini Project or Internship Assessment	KCH354	Mr. Sandeep Kumar Verma (SKV)	0	0	2
Chemical Engg. Fluid Mechanics Lab	KCH351	Mr. Sandeep Kumar Verma/Mr. Venkatesh	0	0	3
Heat Transfer Operations Lab	KCH352	Mr. Anurag Bajpai/Mr. Asim Shukla	0	0	3
Soft Computing Lab	KCH353	Mr. Lalit Singh Baghel//Mr. Venkatesh	0	0	2
*Computer System Secutiry	KNC301	Mr. Atul Barsaiyan	3	0	0

  
**Mr. Anurag Bajpai**  
 Head of the Department  
 CHEMICAL ENGINEERING  
 Department of Chemical Engineering  
 Hindustan College of Science and Technology

  
 Director  
 Hindustan College of  
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 FARAH (MATHURA)

# Hindustan College of Science & Technology

Department of Chemical Engineering

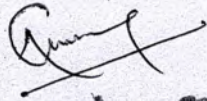
Value Added Course - Registration Form

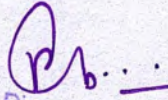
## Solid Waste Management

Session 2022-23

From 13th August, 2022 to 10th Dec, 2022

Sr. No.	Roll No.	Name	Department	Semester	Signature of Student
1	2100640510004	Krishna Saraswat,	Chemical	III	Krishna
2	2100640510007	Vishal Kuntal	Chemical	III	Vishal
3	2200640519001	Manish Kumar	Chemical	III	Manish

  
Head  
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Department of Chemical Engineering

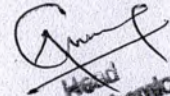
Value Added Course - Registration Form

**Solid waste Management**

Session 2022-23 (Odd Sem)

session wise Attendance Sheet

Sl. No.	Roll No.	Name	SEM	Signature of the Student by Session																		
				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
				13.08	20.8	27.08	03.09	10.9	17.09	24.09	01.10	08.10	15.10	22.10	29.10	05.11	12.11	19.11	26.11	03.12	10.12	
1	2100640510004	Krishna Saraswat	III	K	K	A	K	K	K	K	A	A	K	K	K	K	K	K	A			
2	2100640510007	Vishal Kuntal	III	V	V	V	V	V	(A)	V	V	V	V	A	V	V	V	V	A	V	V	
3	2200640519001	Manish Kumar	III	M	M	M	A	M	M	M	M	M	M	A	M	M	M	A	M	M	A	M

  
 Head  
 Department of Chemical Engg.  
 Hindustan College of Science & Technology  
 Farah, Mathura

  
 Director  
 Hindustan College of  
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***Certificate of Completion***

**DEPARTMENT OF CHEMICAL ENGINEERING  
Academic Session 2022-23**

***This is to certify that Mr. Vishal Kuntal, Roll No: 2100640510007 of Course: B. Tech. Chemical Engineering , III semester has successfully completed 30 hours Value Added Course titled "Solid Waste Management" (Course code: VAC-1702).***

*Sandeep Verma*  
Course Coordinator

*Anurag*  
Head of Department

*P. N. S.*  
Director, HCST

*Anurag*  
Head  
Department of Chemical Engg.  
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HINDUSTAN COLLEGE OF SCIENCE & TECHNOLOGY  
FARAH, MATHURA



*Certificate of Completion*

DEPARTMENT OF CHEMICAL ENGINEERING  
*Academic Session 2022-23*

*This is to certify that Mr. Krishna Saraswat, Roll No: 2100640510004 of Course: B. Tech. Chemical Engineering, III semester has successfully completed 30 hours Value Added Course titled "Solid Waste Management" (Course code: VAC-1702).*

*Sandeep Verma*  
Course Coordinator

*Anurag*  
Head of Department

*P. B. ...*  
Director, HCST

*Anurag*  
Head  
Department of Chemical Engg.  
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Director  
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