



CHRIST THE KING ENGINEERING COLLEGE

Karamadai, Coimbatore - 641104

(Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai)
Ph: +91 91500 76729 Email: principal@ckec.ac.in Web: www.ckec.ac.in

PERMISSION LETTER

Date: 03.07.2019

From

Mr. Vivek D
Assistant Professor / Course Coordinator
Department of Civil Engineering
Christ the King Engineering College
Coimbatore

To

The principal
Christ the King Engineering College
Coimbatore
Through: Head of The Department / Civil Engineering

Respected Sir,

Sub: Requesting permission to organize a Value-Added Course on " **Environmental Sustainability of Contaminated Sites** " - Reg.

Department of Civil Engineering is planning to organize a Value-Added Course on " **Environmental Sustainability of Contaminated Sites** " from 08.07.2019 to 24.07.2019 for Second, Third and final year Civil Engineering students. Mrs. Nandhini K Assistant Professor, Department of Civil Engineering as a Resource Person. In this regard, we seek your permission to conduct the same in the Seminar Hall from 08.07.2019 to 24.07.2019 from 4 pm to 6 pm. Kindly consider our request and grant the same.

Thanking You,

Yours truly,

Dr.M.JEYAKUMAR, M.E..Ph.D.
PRINCIPAL
CHRIST THE KING ENGINEERING COLLEGE,
Chikkarampalayam Village,
Karamada: Mettupalayam Taluk,
Coimbatore - 641 104.

Approved





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DEPARTMENT OF CIVIL ENGINEERING

RefNo: CKEC/CIVIL/VAC/19-20/001

DATE:05.07.2019

CIRCULAR

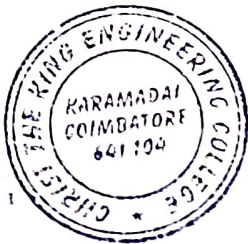
This is to inform that the department of Civil engineering is planning to conduct a value-added course on "ENVIRONMENTAL SUSTAINABILITY OF CONTAMINATED SITES" for all Second, third and final year students on 08.07.2019 to 24.07.2019 Students are asked to register you and utilize this opportunity to improve their skills.

S. No	Course Code	Name of the Course	Department	No of Hours	Course Coordinator
1	VACE1903	Environmental Sustainability of Contaminated Sites	Civil	30	Mr. Vivek D

Note: The circular Display in the department Notice board for student's attention.

Copy to:
Principal
Notice board

D. Sundar
HoD / CIVIL



D.M. Jeyakumar
Dr.M.JEYAKUMAR, M.E.,Ph.D
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**CHRIST THE KING
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**DEPARTMENT OF
CIVIL ENGINEERING**

Organizes

Value Added Course on

***Environmental Sustainability of
Contaminated Sites***

08.07.2019 to 24.07.2019 (4 to 6pm)

Resource Person

MRS. K. NANDHINI

ASSISTANT PROFESSOR

DEPARTMENT OF CIVIL ENGINEERING

For II, III & IV Year Students

CHIEF PATRON

DR. M. JEYAKUMAR

Principal

Venue:

Seminar Hall

PATRON

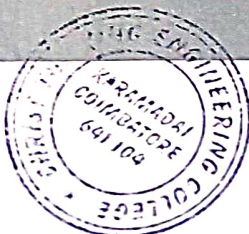
MR. N. SUNDARAMOORTHY

HOD / CIVIL

COORDINATOR

MR. D. VIVEK

AP / CIVIL



Dr.M.JEYAKUMAR, M.E.,Ph.D.

**Principal,
CHRIST THE KING ENGINEERING COLLEGE,**

**Chikkamangalayan, Village,
Karamadal, Mangalvanur Taluk,
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DEPARTMENT OF CIVIL ENGINEERING

Course Code	VACE1903
Name Of the Course	Environmental Sustainability of Contaminated Sites
Duration Of the Course	30 Hours
Academic Year	2019-2020
Period Of the Course	15 Days

COURSE OBJECTIVES:

The course details the usual remediation techniques practiced worldwide and provide an understanding of the relevant theoretical concepts. The current course will enable a student to:

- Develop understanding of integrated approaches to remediating contaminated sites.
- Develop the ability to screen, choose and design appropriate technologies for remediation

Syllabus

UNIT I- INTRODUCTION

(6)

Introduction Laws, Regulations and Remediation A. Legal Concepts 1. Types of Law 2. Regulations.

UNIT II – LAWS AND REGULATION

(6)

Federal B. Laws/Regulations a) History b) Objectives c) Remediation Process d) Definition of hazardous waste e) Waste Classification f) Corrective Action.

UNIT III – RISK ASSESSMENT

(6)

Risk Assessment A. Introduction 1. Terminology 2. History B. Steps in Human Health Risk Assessment 1.Data Collection and Evaluation 2. Exposure Assessment 3.Toxicity Assessment 4.Risk Characterization 5. Risk Management 6.Risk Communication Ecological Risk Assessment D.Risk-based Corrective Action

UNIT IV – SOURCE OF CONTAMINATION

(6)

Plume Containment a) introduction b) extraction wells c) extraction trenches d) injection wells/trenches e) wells/barriers. Pump and Treat a) Introduction b) Contaminant behavior c) Design considerations Source Control a) Philosophy b) Options



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UNIT V – DESIGN CONSIDERAION

(6)

Solidification/Stabilization a) Introduction b) Fundamentals (1) Chemical (2) physical c) Leaching (1) single-component (2) multi-component d) Design Considerations (1) TCLP-based approach (2) Risk-based approach

TOTAL HOURS:30

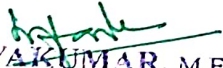
COURSE OUTCOME:

- Collect representative environmental samples, perform routine and specialized tests and interpret results, using current and relevant tools.
- Identify, select and use scientific concepts and models in the prevention, control and elimination of environmental hazards and in the remediation of contaminated sites.
- Analyze water/soil/air samples in a manner that contributes to the resolution of environmental problems through the selection and application of relevant scientific and engineering principles.
- Participate in the planning, design, implementation and maintenance of environmental projects, following standard procedures.

TEXT BOOK & REFERENCES:

- 1.LaGrega, M.D., Buckingham, P.L., Evans, J.C., Hazardous Waste Management, McGraw-Hill, 1994.Haas, 2.C.N., Vamos, R.J., Hazardous and Industrial Waste Treatment, Prentice Hall, Englewood Cliffs, NJ, 1995.




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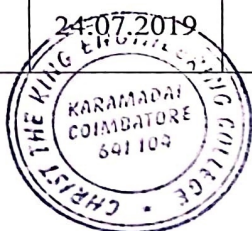
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DEPARTMENT OF CIVIL ENGINEERING

VACE1903 - Environmental Sustainability of Contaminated Sites

SCHEDULE

S. No	DAY	TIME/SESSION	CONTENT	RESOURCE PERSON
1	08.07.2019	4.00-6.00pm	Introduction Laws, Regulations and Remediation A. Legal Concepts	Mrs. Nandhini K Assistant Professor, Department of Civil Engineering, Christ the King Engineering College
	09.07.2019	4.00-6.00pm	Types of Law Regulations.	
	10.07.2019	4.00-6.00pm		
2	11.07.2019	4.00-6.00pm	Federal B. Laws/Regulations	
	12.07.2019	4.00-6.00pm	a) History b) Objectives c) Remediation Process d) Definition of hazardous waste e) Waste Classification	
	13.07.2019	4.00-6.00pm	f) Corrective Action.	
3	15.07.2019	4.00-6.00pm	Risk Assessment A. Introduction 1. Terminology 2. History B. Steps in Human Health Risk Assessment 1. Data Collection and Evaluation 2. Exposure Assessment 3. Toxicity Assessment 4. Risk Characterization 5. Risk Management 6. Risk Communication C. Ecological Risk Assessment D. Risk-based Corrective Action	
	16.07.2019	4.00-6.00pm		
	17.07.2019	4.00-6.00pm		
4	18.07.2019	4.00-6.00pm	Plume Containment a) introduction b) extraction wells c) extraction trenches d) injection wells/trenches e) wells/barriers. Pump and Treat a) Introduction b) Contaminant behavior c) Design considerations Source Control a) Philosophy b) Options	
	19.07.2019	4.00-6.00pm		
	20.07.2019	4.00-6.00pm		
5	22.07.2019	4.00-6.00pm	Solidification/Stabilization a)Introduction b) Fundamentals (1)Chemical (2)physical	
	23.07.2019	4.00-6.00pm	c)Leaching (1)single-component (2)multi-component d)Design Considerations (1)TCLP-based approach (2)Risk-based approach	
	24.07.2019	4.00-6.00pm	Test	



D. Sundar
HoD / CIVIL

[Signature]
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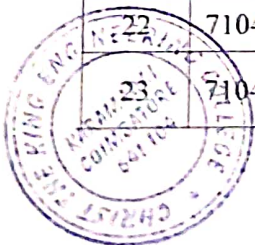
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DEPARTMENT OF CIVIL ENGINEERING VACE1903 - Environmental Sustainability of Contaminated Sites STUDENT REGISTRATION

S.No	REGISTER NUMBER	NAME OF THE STUDENT	SIGNATURE
1	710418103001	ALINA BOBAN	Alina
2	710418103002	ASHAK SHAN J	Ashak Shan J
3	710418103003	JITHIN DEV	Jithin
4	710418103004	JITHIN P	Jithin
5	710418103006	NIDHIN M DAVID	Nidhin
6	710418103007	PARTHIBAN E	Parthiban
7	710418103009	SNEHA THOMAS	S. Sneha
8	710418103010	VIGNESH E V	Vignesh
9	710418103701	THENMOZHI S	Thenmozhi S
10	710417103001	AJISH S. V	Ajish S.V
11	710417103002	AMANSHEK.S	Amanshek
12	710417103003	BHUVANESHWARAN. S	Bhuvaneshwaran
13	710417103005	GODWIN.V	Godwin
14	710417103006	JOBIN ANTONY.D	Jobin
15	710417103301	SARAVANAN S	Saravanan
16	710417103701	HARI HARAN J	Harisaran
17	710416103001	ABHAKOOK JAYAPPAUL. A	Abhakook
18	710416103002	ABISHEK. S	Abhishek
19	710416103004	AJI JOSE MATHEW	Aji Jose
20	710416103005	AJITH. A	Ajith
21	710416103006	ALWIN. A. S	Alwin
22	710416103007	AMAL MATHEW	Amal
23	710416103008	BENAT. M. B	Benat



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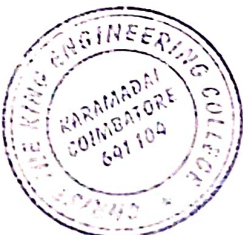
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24	710416103010	DILNA BABY	<i>[Signature]</i>
25	710416103011	DURKAMALINI	<i>[Signature]</i>
26	710416103013	JEYACHANTHIRAN. A	<i>[Signature]</i>
27	710416103015	KARTHICK. S	<i>[Signature]</i>
28	710416103016	MERIN JOY	<i>MerinJoy</i>
29	710416103017	PALPANDI. K	<i>[Signature]</i>
30	710416103018	PAULVIN KURIAN	<i>[Signature]</i>
31	710416103020	SNEHA MERY	<i>Sneha mery</i>
32	710416103022	TONY JOSE	<i>[Signature]</i>
33	710416103701	SURJITH	<i>[Signature]</i>
34	710416103901	ABISHEK E	<i>[Signature]</i>

[Signature]
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[Signature]
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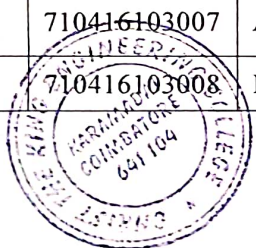
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DEPARTMENT OF CIVIL ENGINEERING VACE1903 - Environmental Sustainability of Contaminated Sites STUDENTS ATTENDANCE LIST

S.No	REGISTER NUMBER	NAME OF THE STUDENT	08.07.2019	09.07.2019	10.07.2019	11.07.2019	12.07.2019
			4-6.00pm	4-6.00pm	4-6.00pm	4-6.00pm	4-6.00pm
1	710418103001	ALINA BOBAN	<i>Alina</i>	<i>Alina</i>	AB	<i>Alina</i>	<i>Alina</i>
2	710418103002	ASHAK SHAN J	<i>Ashak</i>	<i>Ashak</i>	<i>Ashak</i>	<i>Ashak</i>	<i>Ashak</i>
3	710418103003	JITHIN DEV	<i>Jithin</i>	<i>Jithin</i>	AB	<i>Jithin</i>	<i>Jithin</i>
4	710418103004	JITHIN P	<i>Jithin</i>	<i>Jithin</i>	<i>Jithin</i>	<i>Jithin</i>	AB
5	710418103006	NIDHIN M DAVID	<i>Nidhin</i>	<i>Nidhin</i>	<i>Nidhin</i>	<i>Nidhin</i>	<i>Nidhin</i>
6	710418103007	PARTHIBAN E	<i>Parthi</i>	AB	<i>Parthi</i>	<i>Parthi</i>	<i>Parthi</i>
7	710418103009	SNEHA THOMAS	<i>Sneha</i>	<i>Sneha</i>	AB	<i>Sneha</i>	<i>Sneha</i>
8	710418103010	VIGNESH E V	<i>Vignesh</i>	<i>Vignesh</i>	<i>Vignesh</i>	<i>Vignesh</i>	AB
9	710418103701	THENMOZHI S	<i>Thenmozhi</i>	<i>Thenmozhi</i>	<i>Thenmozhi</i>	<i>Thenmozhi</i>	<i>Thenmozhi</i>
10	710417103001	AJISH S. V	<i>Ajish</i>	<i>Ajish</i>	<i>Ajish</i>	AB	<i>Ajish</i>
11	710417103002	AMANSHEK.S	<i>Amanshek</i>	<i>Amanshek</i>	<i>Amanshek</i>	<i>Amanshek</i>	<i>Amanshek</i>
12	710417103003	BHUVANESHWARAN. S	<i>Bhuvan</i>	<i>Bhuvan</i>	<i>Bhuvan</i>	<i>Bhuvan</i>	<i>Bhuvan</i>
13	710417103005	GODWIN.V	<i>Godwin</i>	<i>Godwin</i>	<i>Godwin</i>	<i>Godwin</i>	<i>Godwin</i>
14	710417103006	JOBIN ANTONY.D	<i>Jobin</i>	<i>Jobin</i>	<i>Jobin</i>	<i>Jobin</i>	<i>Jobin</i>
15	710417103301	SARAVANAN S	<i>Saravanan</i>	<i>Saravanan</i>	<i>Saravanan</i>	<i>Saravanan</i>	<i>Saravanan</i>
16	710417103701	HARI HARAN J	<i>Harikiran</i>	<i>Harikiran</i>	<i>Harikiran</i>	<i>Harikiran</i>	<i>Harikiran</i>
17	710416103001	ABHAKOOK JAYAPPAUL. A	<i>Abhakook</i>	AB	<i>Abhakook</i>	<i>Abhakook</i>	<i>Abhakook</i>
18	710416103002	ABISHEK. S	<i>Abhishek</i>	<i>Abhishek</i>	<i>Abhishek</i>	AB	<i>Abhishek</i>
19	710416103004	AJI JOSE MATHEW	<i>Ajijose</i>	<i>Ajijose</i>	<i>Ajijose</i>	<i>Ajijose</i>	<i>Ajijose</i>
20	710416103005	AJITH. A	<i>Ajith</i>	<i>Ajith</i>	<i>Ajith</i>	<i>Ajith</i>	<i>Ajith</i>
21	710416103006	ALWIN. A. S	<i>Alwin</i>	<i>Alwin</i>	<i>Alwin</i>	<i>Alwin</i>	<i>Alwin</i>
22	710416103007	AMAL MATHEW	<i>Amal</i>	<i>Amal</i>	<i>Amal</i>	<i>Amal</i>	<i>Amal</i>
23	710416103008	BENAT. M. B	<i>Benat</i>	<i>Benat</i>	<i>Benat</i>	<i>Benat</i>	<i>Benat</i>



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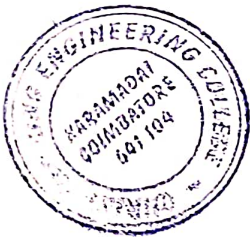
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25	710416103011	DURKAMALINI	<i>Durka</i>	<i>Durka</i>	<i>Durka</i>	<i>Durka</i>	<i>Durka</i>	<i>Durka</i>
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27	710416103015	KARTHICK. S	<i>Karthi</i>	<i>Karthi</i>	<i>Karthi</i>	<i>Karthi</i>	<i>Karthi</i>	<i>Karthi</i>
28	710416103016	MERIN JOY	<i>MerinJoy</i>	<i>MerinJoy</i>	<i>MerinJoy</i>	<i>MerinJoy</i>	<i>MerinJoy</i>	<i>MerinJoy</i>
29	710416103017	PALPANDI. K	<i>Palpandi</i>	<i>Palpandi</i>	<i>Palpandi</i>	<i>Palpandi</i>	<i>Palpandi</i>	<i>Palpandi</i>
30	710416103018	PAULVIN KURIAN	<i>P</i>	<i>P</i>	<i>P</i>	<i>P</i>	<i>P</i>	<i>P</i>
31	710416103020	SNEHA MERY	<i>Sneha</i>	<i>Sneha</i>	<i>Sneha</i>	<i>Sneha</i>	<i>Sneha</i>	<i>Sneha</i>
32	710416103022	TONY JOSE	<i>Tony</i>	<i>Tony</i>	<i>Tony</i>	<i>Tony</i>	<i>Tony</i>	<i>Tony</i>
33	710416103701	SURJITH	<i>Surjith</i>	<i>Surjith</i>	<i>Surjith</i>	<i>Surjith</i>	<i>Surjith</i>	<i>Surjith</i>
34	710416103901	ABISHEK E	<i>Abisek</i>	<i>Abisek</i>	<i>Abisek</i>	<i>Abisek</i>	<i>Abisek</i>	<i>Abisek</i>

D. Sundar
HoD / CIVIL



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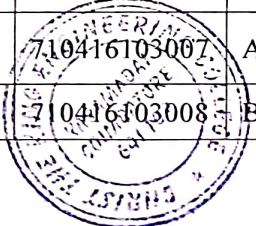
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4	710418103004	JITHIN P	Jithin	Jithin	Jithin	Jithin	Jithin
5	710418103006	NIDHIN M DAVID	Nidhin	Nidhin	Nidhin	Nidhin	Nidhin
6	710418103007	PARTHIBAN E	Parthiban	Parthiban	AB	Parthiban	Parthiban
7	710418103009	SNEHA THOMAS	Sneha	Sneha	Sneha	Sneha	Sneha
8	710418103010	VIGNESH E V	Vignesh	Vignesh	Vignesh	Vignesh	Vignesh
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11	710417103002	AMANSHEK.S	Amanshek	Amanshek	Amanshek	Amanshek	Amanshek
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13	710417103005	GODWIN.V	Godwin	Godwin	Godwin	AB	Godwin
14	710417103006	JOBIN ANTONY.D	Jobin	Jobin	Jobin	Jobin	Jobin
15	710417103301	SARAVANAN S	Saravanan	Saravanan	Saravanan	Saravanan	Saravanan
16	710417103701	HARI HARAN J	Harisajan	Harisajan	Harisajan	Harisajan	Harisajan
17	710416103001	ABHAKOOK JAYAPPAUL. A	Abhakook	AB	Abhakook	Abhakook	Abhakook
18	710416103002	ABISHEK. S	Abishek	Abishek	Abishek	Abishek	AB
19	710416103004	AJI JOSE MATHEW	Aji Jose	Aji Jose	Aji Jose	Aji Jose	Aji Jose
20	710416103005	AJITH. A	Ajith	Ajith	AB	Ajith	Ajith
21	710416103006	ALWIN. A. S	Alwin	Alwin	Alwin	Alwin	Alwin
22	710416103007	AMAL MATHEW	Amal	AB	Amal	Amal	Amal
23	710416103008	BENAT. M. B	Benat	Benat	Benat	Benat	Benat



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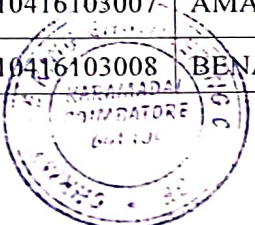
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Web: www.ckec.ac.in

STUDENTS ATTENDANCE LIST

S.No	REGISTER NUMBER	NAME OF THE STUDENT	19.07.2019	20.07.2019	22.07.2019	23.07.2019	24.07.2019
			4-6.00pm	4-6.00pm	4-6.00pm	4-6.00pm	4-6.00pm
1	710418103001	ALINA BOBAN	Alina	Alina	Alina	Alina	Alina
2	710418103002	ASHAK SHAN J	AS	AS	AB	AS	AS
3	710418103003	JITHIN DEV	Jithin	Jithin	Jithin	Jithin	AB
4	710418103004	JITHIN P	Jithin	Jithin	Jithin	Jithin	Jithin
5	710418103006	NIDHIN M DAVID	Nidhin	Nidhin	Nidhin	Nidhin	Nidhin
6	710418103007	PARTHIBAN E	P	P	P	P	P
7	710418103009	SNEHA THOMAS	Sneha	Sneha	AB	Sneha	Sneha
8	710418103010	VIGNESH E V	Vignesh	Vignesh	Vignesh	Vignesh	Vignesh
9	710418103701	THENMOZHI S	Thenmozhi	Thenmozhi	AB	Thenmozhi	Thenmozhi
10	710417103001	AJISH S. V	Ajish sv	Ajish sv	Ajish sv	Ajish sv	Ajish sv
11	710417103002	AMANSHEK.S	Amanshek	Amanshek	Amanshek	Amanshek	Amanshek
12	710417103003	BHUVANESHWARAN. S	Bhuvan	Bhuvan	Bhuvan	Bhuvan	Bhuvan
13	710417103005	GODWIN.V	Godwin	Godwin	Godwin	Godwin	Godwin
14	710417103006	JOBIN ANTONY.D	Jobin	Jobin	Jobin	Jobin	Jobin
15	710417103301	SARAVANAN S	Saravan	Saravan	Saravan	Saravan	Saravan
16	710417103701	HARI HARAN J	Harisaran	AB	Harisaran	Harisaran	Harisaran
17	710416103001	ABHAKOOK JAYAPPAUL. A	AB	Abhakook	Abhakook	Abhakook	Abhakook
18	710416103002	ABISHEK. S	Abhishek	Abhishek	Abhishek	Abhishek	Abhishek
19	710416103004	AJI JOSE MATHEW	Aji Jose	Aji Jose	Aji Jose	Aji Jose	AB
20	710416103005	AJITH. A	Ajith	Ajith	Ajith	Ajith	Ajith
21	710416103006	ALWIN. A. S	Alwin	AB	Alwin	Alwin	Alwin
22	710416103007	AMAL MATHEW	Amal	Amal	Amal	Amal	Amal
23	710416103008	BENAT. M. B	Benat	Benat	Benat	Benat	AB



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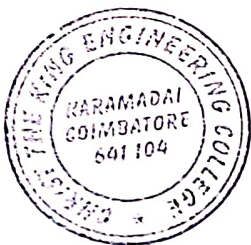
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24	710416103010	DILNA BABY	Dilna	Dilna	Dilna	Dilna	Dilna
25	710416103011	DURKAMALINI	Durka	Durka	Durka	Durka	Durka
26	710416103013	JEYACHANTHIRAN. A	Jaych	Jaych	Jaych	Jaych	Jaych
27	710416103015	KARTHICK. S	Karthi	Karthi	Karthi	Karthi	Karthi
28	710416103016	MERIN JOY	Merin	Merin	Merin	Merin	Merin
29	710416103017	PALPANDI. K	AB	Palpadi	Palpadi	Palpadi	Palpadi
30	710416103018	PAULVIN KURIAN	PK	PK	AB	PK	PK
31	710416103020	SNEHA MERY	Sneha	Sneha	Sneha	Sneha	AB
32	710416103022	TONY JOSE	AB	Tony	Tony	Tony	Tony
33	710416103701	SURJITH	AB	Surjith	Surjith	Surjith	Surjith
34	710416103901	ABISHEK E	AB	Abhishek	AB	Abhishek	Abhishek

D. Sundaram
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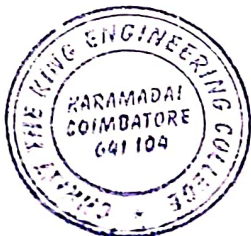
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DEPARTMENT OF CIVIL ENGINEERING VACE1903 - Environmental Sustainability of Contaminated Sites MULTIPLE CHOICE QUESTION

1. The _____ program for the cleanup of closed or abandoned hazardous waste sites is administered by EPA.
a) Superfund
b) HZAMAT
c) NPL
d) HPS
2. _____ are the most common contaminants in hazardous sites according to EPA data analysis.
a) VOC
b) Metals
c) PAH
d) PCB
3. USTs containing petroleum products are regulated by RCRA.
a) True
b) False
4. _____ soil remediation technology is used for remediating unsaturated soils contaminated with SVOC.
a) SVE
b) Soil washing
c) NPL
d) HPS
5. Which of the following technique is successful in treating petroleum hydrocarbons?
a) SVE
b) Soil washing
c) NPL
d) Landfarming
6. _____ reduces the mobility of hazardous substances and contaminants in the environment.
a) SVE
b) Soil washing
c) Solidification
d) Landfarming
7. _____ solidification uses a powerful source of energy to melt soil.
a) SVE
b) Soil washing
c) Asphalt batching
d) Vitrification




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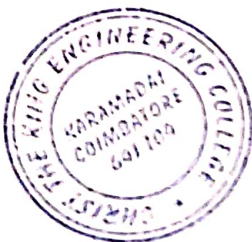
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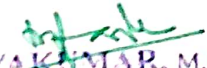
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8. _____ soil remediation technology uses liquids and mechanical processes to scrub soils.
- a) SVE
 - b) Soil washing
 - c) NPL
 - d) HPS
9. Which of the following is done on an individual level?
- (a) Burning
 - (b) Disposal
 - (c) Recycling
 - (d) Source reduction**
10. The burning of solid waste is not recommended because
- (a) It is very costly
 - (b) It requires a lot of space
 - (c) It requires modern technologies
 - (d) It causes several environmental issues**




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DEPARTMENT OF CIVIL ENGINEERING VACE1903 - Environmental Sustainability of Contaminated Sites STUDENTS ASSESSMENT MARKS

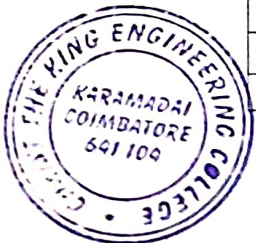
S.No	REGISTER NUMBER	NAME OF THE STUDENT	MARKS (10)
1	710418103001	ALINA BOBAN	9
2	710418103002	ASHAK SHAN J	8
3	710418103003	JITHIN DEV	7
4	710418103004	JITHIN P	8
5	710418103006	NIDHIN M DAVID	7
6	710418103007	PARTHIBAN E	8
7	710418103009	SNEHA THOMAS	8
8	710418103010	VIGNESH E V	7
9	710418103701	THENMOZHI S	8
10	710417103001	AJISH S.V	8
11	710417103002	AMANSHEK.S	9
12	710417103003	BHUVANESHWARAN .S	8
13	710417103005	GODWIN.V	7
14	710417103006	JOBIN ANTONY.D	7
15	710417103301	SARAVANAN S	7
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28	710416103016	MERIN JOY	8
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30	710416103018	PAULVIN KURIAN	9
31	710416103020	SNEHA MERY	7
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33	710416103701	SURJITH	9
34	710416103901	ABISHEK E	9

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DEPARTMENT OF CIVIL ENGINEERING

VACE1803 - Environmental Sustainability of Contaminated Sites

MULTIPLE CHOICE QUESTION

Name : Jithin.P
Register No. : F10418103004
Year / Sem : II/III
Academic Year : 2019-20

1. The _____ program for the cleanup of closed or abandoned hazardous waste sites is administered by EPA.

- a) Superfund
- b) HZAMAT
- c) NPL
- d) HPS



2. _____ are the most common contaminants in hazardous sites according to EPA data analysis.

- a) VOC
- b) Metals
- c) PAH
- d) PCB



3. USTs containing petroleum products are regulated by RCRA.

- a) True
- b) False



4. _____ soil remediation technology is used for remediating unsaturated soils contaminated with SVOC.

- a) SVE
- b) Soil washing
- c) NPL
- d) HPS



5. Which of the following technique is successful in treating petroleum hydrocarbons?

- a) SVE
- b) Soil washing
- c) NPL
- d) Landfarming



_____ reduces the mobility of hazardous substances and contaminants in the environment.

Jithin.P



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- b) Soil washing
- c) Solidification
- d) Landfarming



7. _____ solidification uses a powerful source of energy to melt soil.

- a) SVE
- b) Soil washing
- c) Asphalt batching
- d) Vitrification



8. _____ soil remediation technology uses liquids and mechanical processes to scrub soils.

- a) SVE
- b) Soil washing
- c) NPL
- d) HPS



9. Which of the following is done on an individual level?

- (a) Burning
- (b) Disposal
- (c) Recycling
- (d) Source reduction



10. The burning of solid waste is not recommended because

- (a) It is very costly
- (b) It requires a lot of space
- (c) It requires modern technologies
- (d) It causes several environmental issues



8/10

P. Sundar

HOD / CIVIL



M. Jeyakumar
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DEPARTMENT OF CIVIL ENGINEERING

STUDENT FEEDBACK FORM

Name of the value added course: *Environmental Sustainability of contaminated sites*
Name of the student: *Alina baben*
Register Number: *710418103001*
Year / semester: *II / 1st sem*
Batch: *2018-2022*
Course Coordinator: *Mr. Vivek-D*
Academic Year: *2019-20*

Sl.No.	Criteria	Rating				
		Excellent	Good	Average	Satisfactory	Poor
1.	Course content	✓				
2.	Individual attention		✓			
3.	Level of the course		✓			
4.	Regularity and knowledge of faculty	✓				
5.	Coverage of syllabus		✓			
6.	Interaction		✓			
7.	Outcome	✓				
	Total	15	16			
	Remarks	-	-			

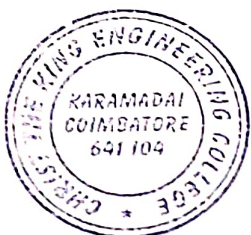
EXCELLENT-5

GOOD-4

AVERAGE-3

SATISFACTORY-2

POOR-1



[Signature]
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[Signature]
Signature of the student



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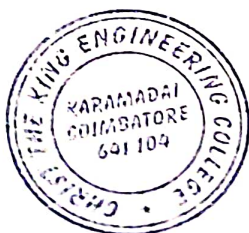
Email: principal@ckec.ac.in


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POST EVENT REPORT

Course code	VACE1803
Name of the course	Environmental Sustainability of Contaminated Sites
Duration of the course	30 Hours
Academic year	2019-2020
Period of the course	15 Days
Coordinator & Faculty handling the course	Mr. Vivek D Mrs. Nandhini K
Number of the students registered	34
Number of the students completed	34
% of students completed the course	100%
Details of the course	The course details the usual remediation techniques practiced worldwide and provide an understanding of the relevant theoretical concepts. The current course will enable a student to: Develop understanding of integrated approaches to remediating contaminated sites.




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PHOTO



VACE 19-20: Environmental Sustainability of Contaminated Sites




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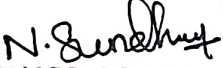
CERTIFICATE

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DEPARTMENT OF CIVIL ENGINEERING
Value Added Course on
"ENVIRONMENTAL SUSTAINABILITY OF CONTAMINATED SITES"

Certificate of Completion

This is to certify that ALINA BOBAN of
II, III & IV Year has successfully completed the Value Added Course on Environmental
Sustainability of Contaminated Sites conducted by the Department of Civil Engineering at
Christ The King Engineering College from 08-07-2019 to 24-07-2019.


N. Sundaraj
HOD / CIVIL



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Value Added Course on
"ENVIRONMENTAL SUSTAINABILITY OF CONTAMINATED SITES"


Certificate of Completion

This is to certify that DILNA BABY of
II, III & IV Year has successfully completed the Value Added Course on Environmental
Sustainability of Contaminated Sites conducted by the Department of Civil Engineering at
Christ The King Engineering College from 08-07-2019 to 24-07-2019.


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