



K. S. R. M. COLLEGE OF ENGINEERING

(UGC-AUTONOMOUS)

Kadapa, Andhra Pradesh, India – 516 005

Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu.

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Ref-No. /KSRMCE/Code of Conduct/2022

Dated: 06.01.2022

CIRCULAR

All the Teaching and Non – Teaching staff are hereby informed that the Principal, KSRMCE is going to give a lecture on Code of Conduct and Professional Ethics on 08.01.2022 at 10.00 am in MB 301 (Seminar Hall) to create an awareness among the staff members regarding staff responsibilities, duties and ethics to their profession.

In this connection, all the teaching and non – teaching staff are hereby requested to attend the above program without fail.

Copy to Directors Table

Copy to all the Teaching & Non – Teaching Staff

Copy to all the Head of the Departments for information.

Copy to Account Section / Academic Section / PD / Library / Exam Section
/ CRI / TPO / Media

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V. S. S. Mm/9

Principal

PRINCIPAL

K.S.R.M. COLLEGE OF ENGINEERING
KADAPA-516005, (A.P.)

grp/-



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KSNR
lives on.

Guest lectures organized on Human Values and Ethics Academic Year 2021-2022

Title of the programme:	Self Esteem
Name of the Speaker:	Sri. Maharshi Sagar
Objective:	How to live in the society with Confident
Venue:	KOR Auditorium
Date:	04.01.2022
No. of audience:	Students: 535 Faculty: 15

Self-esteem is your opinion of yourself. Everyone lacks confidence occasionally but people with low self-esteem are unhappy or unsatisfied with themselves most of the time. It takes attention and daily practice to boost a low self-esteem. Self-esteem is your opinion of yourself. People with healthy self-esteem like themselves and value their achievements. While everyone lacks confidence occasionally, people with low self-esteem feel unhappy or unsatisfied with themselves most of the time. This can be remedied but it takes attention and daily practise to boost self-esteem. Self-esteem is strongly related to how you view and react to the things that happen in your life. Suggestions for building self-esteem include:

- Talk to yourself positively – treat yourself as you would your best friend. Be supportive, kind and understanding. Don't be hard on yourself when you make a mistake.
- Challenge negative 'self-talk' – every time you criticise yourself, stop and look for objective evidence that the criticism is true. (If you feel you can't be objective, then ask a trusted friend for their opinion.) You'll realise that most of your negative self-talk is unfounded.
- Don't compare yourself to others – recognise that everyone is different and that every human life has value in its own right. Make an effort to accept yourself, warts and all.
- Acknowledge the positive – for example, don't brush off compliments, dismiss your achievements as 'dumb luck' or ignore your positive traits.
- Appreciate your special qualities – remind yourself of your good points every day. Write a list and refer to it often. (If you feel you can't think of anything good about yourself, ask a trusted friend to help you write the list.)
- Forget the past – concentrate on living in the here-and-now rather than reliving old hurts and disappointments.
- Tell yourself a positive message everyday – buy a set of 'inspirational cards' and start each day reading out a new card and carrying the card's message with you all day.
- Stop worrying – 'worry' is simply fretting about the future. Accept that you can't see or change the future and try to keep your thoughts in the here-and-now.
- Have fun – schedule enjoyable events and activities into every week.
- Exercise – it is such a good boost to the brain for all kinds of things but especially in combatting depression and helping you to feel good.





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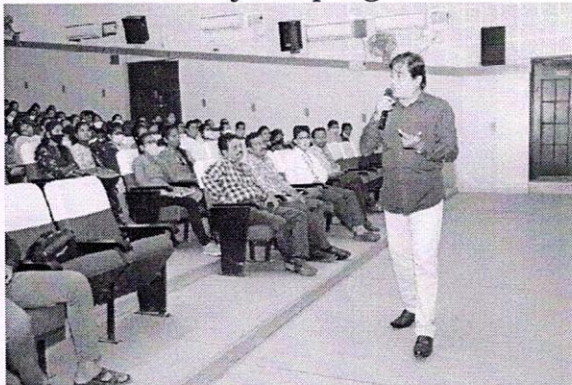
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Targets need to be step by step, such as starting with a walk round the block once a day, enrolling at a local gym class or going for a swim.

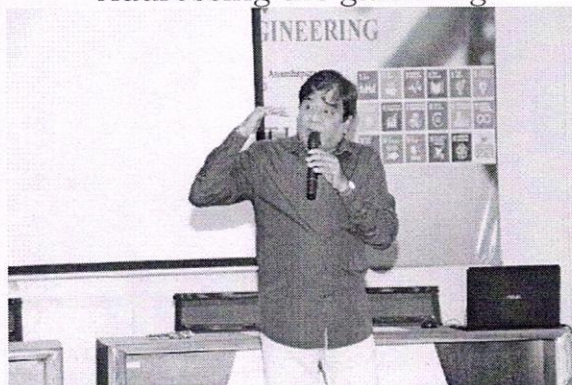
- Be assertive – communicate your needs, wants, feelings, beliefs and opinions to others in a direct and honest manner.
- Practise the above suggestions every day – it takes effort and vigilance to replace unhelpful thoughts and behaviours with healthier versions. Give yourself time to establish the new habits. Keep a diary or journal to chart your progress.



Chief Guest Sri. Maharshi Sagar
Addressing the gathering



Faculty & Students in the Lecture



Chief Guest Sri. Maharshi Sagar
giving lecture on Self Esteem



Felicitation to the Chief Guest

V. S. S. M. M. /g

Principal

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Lectures on Code of Conduct and Professional Ethics Academic Year 2021-2022

Title of the Program: Code of Conduct and Professional Ethics
Name of the Speaker: Dr. V. S. S. Murthy, Principal, KSRMCE
Objective: Staff responsibilities, duties, and ethics to their profession
Venue: MB 301 (Seminar Hall)
Date: 08.01.2022
No. of Audience: Teaching: 50 Non-Teaching: 15

Dr. V. S. S. Murthy, Principal, KSRMCE, addressed the congregation concerning the Code of conduct and professional ethics. In this, he mentioned the Staff ethics in demonstrating in the lecture and with inside the laboratory, duties as a trainer and even as giving the lectures, doing the experiments, and undertaking examinations for concepts in addition to the laboratory. For the staff and their expertise growth, what are the measures to take and the actions in opposition to the mishaps, service guidelines and their implementation from time to time, go away eligibilities, promotions, and increment guidelines are mentioned very clearly.



Dr. V. S. S. Murthy, Principal, KSRMCE



Staff Members attended the lecture

V. s. s. mm/19

Principal

**PRINCIPAL
K.S.R.M. COLLEGE OF ENGINEERING
KADAPA-516005, (A.P.)**

**A CERTIFICATE COURSE
ON
GENDER SENSITIZATION**

**Organized
by
Department of Humanities and Sciences**

Course Coordinator: Sri N. Raghunatha Reddy, Asst. Professor

**Resource Persons: 1. Dr. K.Ramesh Rao, Asst Professor
2. Sri. N. Raghunatha Reddy, Asst. Professor
3. Sri. K. Eswar Reddy, Asst. Professor**

Dates: Feb 22nd 2022 to 30th March 2022



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Lr./KSRMCE/ Faculty of English / H&S - 2022

Date: 18/02/2022

To
The Principal,
K.S.R.M.College of Engineering,
Kadapa.

From
N.Raghunatha Reddy
Asst. Professor,
Department of Humanities and Sciences,
K.S.R.M.C.E
KADAPA.

Respected Sir,

Sub: KSRMCE - Permission to organize a certification course on **Gender Sensitization**- Request - Reg.

It is to bring to your kind notice that I am conducting a certification course on **Gender Sensitization** as part of Language Enhancement Activity, for B.Tech I Sem students from Feb 22nd 2022 to March 30th 2022. In this regard, I kindly request you to grant permission for conducting this event. This is submitted for your kind perusal.

Thanking you Sir


Yours Faithfully,

N.Raghunatha Reddy,
Asst. Professor,
Faculty in- charge of Language Enhancement Activity,
Department of Humanities and Sciences,
K.S.R.M.C.E,
KADAPA.

*Forwarded to
Principal
Dr. S. S. S.*

*Permitted
V. S. S. Murthy*

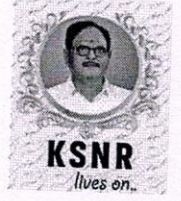


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Cr./KSRMCE/ Faculty of English, H&S/2022

Date: 18/02/2022

Circular

All students are hereby informed that the faculty of English, Department of H&S is organizing a **certification course on Gender Sensitization** for B.Tech I Semester Students as part of **Language Enhancement** activity. This Certification Course is conducted from **22nd February 2022** in the Communicative English Lab, Students who are Interested to join the course can meet Sri. N.Raghunatha Reddy, faculty of English. Room No 319 PG Block Communicative English Lab, **Mobile No. 9063758685.**

HOD H&S

Dr. I. SREEVANI M.Sc., Ph.D.
Head of Humanities & Sciences
K.S.R.M College of Engineering
KADAPA - 516 005

Cc to:

The Management /Deans/HoDs/IQAC for information

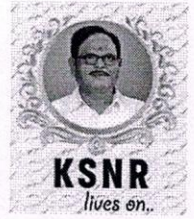


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Name of the event: - Certificate course on Gender Sensitization

Date: 20.02.2022

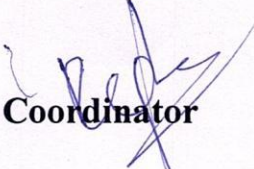
Venue: Communicative English Lab

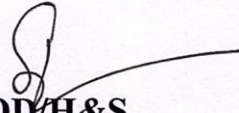
Registration Form

S.NO	Roll Number	Name	Branch	Signature
1	219Y1A04C0	ORVAKANTI NAVEEN KUMAR	ECE	O. Naveen
2	219Y1A04C1	P SANDEEP MUNI	ECE	P. Sandeep
3	219Y1A04C2	Vijaya Simla prasad	ECE	Prasad.
4	219Y1A04C3	Palagiri Habeeba	ECE	P. habeeba.
5	219Y1A04C4	PAMALURI VENKATA KARTHIK	ECE	Karthik
6	219Y1A04C5	P. Satya Narayana Reddy	ECE	P. S. narayana.
7	219Y1A04C6	PANNURU CHANDANA	ECE	P. chandana
8	219Y1A04C7	Pannuru Mahideep Reddy	ECE	P. Mahideep.
9	219Y1A04C8	PANNURU VASANTH REDDY	ECE	P. vasanth reddy.
10	219Y1A04C9	Palthakota praveen kumar Reddy	ECE	P. praveen.
11	219Y1A04D0	PATTA DEVENDRA	ECE	Devendra
12	219Y1A04D1	peddabalugandla manju	ECE	P. manju.
13	219Y1A04D2	Pidugu sai kumar Reddy	ECE	P. sai kumar
14	219Y1A04D3	Pala Ramadeep	ECE	Ramadeep
15	219Y1A04D4	potu Gangothai	ECE	P. Gangothai
16	219Y1A04D5	P. chandra Hasan Reddy	ECE	P. chandra
17	219Y1A04D6	Pullalasevu meethana	ECE	P. meethana.
18	219Y1A04D7	Rallapalli sainath	ECE	R. Sainath
19	219Y1A04D8	RODDOLA SIVA TEJESHWARI	ECE	p.siva tejeswari
20	219Y1A04D9	Sagili Mounika	ECE	J. Mounika
21	219Y1A04E0	SAGILI SWATHI	ECE	S. Swathi
22	219Y1A04E1	S VENKATA NIKHIL VARMA	ECE	S. nikhil.
23	219Y1A04E2	Sampathi Bheemesh	ECE	S. Bheemesh
24	219Y1A04E3	SAYYAD RAHIMAN	ECE	S. Rahiman.

25	219Y1A04E5	SHAIK ARSHAD	ECE	Arshad
26	219Y1A04E5	S. Gousdiazam Dasthagani	ECE	S. G. D.
27	219Y1A04E6	SHAIK mohammed akhil	ECE	Akhil
28	219Y1A04E7	Sheik mohammad Ashfaiz	ECE	Sheik
29	219Y1A04E8	SHAIK mohammad Hussain	ECE	Shaiq
30	219Y1A04F0	SHAIK mohamina Tabassum (w)	ECE	Shaiq
31	219Y1A04F1	SHIK WAJED AHMED	ECE	S. wajid
32	219Y1A04F2	SHIK ZAKEER BASHA	ECE	S. ZAKEER
33	219Y1A04F3	SODDALASIRASALA SRINATH	ECE	S. Srinath
34	219Y1A04F4	SODDALA manasa (w)	ECE	manasa
35	219Y1A04F6	SURA BHARGAVI	ECE	BHARGAVI
36	219Y1A04F8	Sovala Sumalatha	ECE	S. Sumalatha
37	219Y1A04F7	S. Srikanth	ECE	Srikanth
38	219Y1A04F9	T. Bhargavi	ECE	Bhargavi
39	219Y1A04G0	T. MAHENDRA	ECE	T. MAHENDRA
40	219Y1A04G2	V. Prasanth	ECE	Prasanth
41	219Y1A04G3	V. PRASAD	ECE	Prasad
42	219Y1A04G4	VELPULA GANGOTHRIB	ECE	Gangotri
43	219Y1A04G5	V. Kiran	ECE	Kiran
44	219Y1A04G7	V. Shaik Mosharat	ECE	Mosharat
45	219Y1A04G8	V. Padmakanth Reddy	ECE	Padmakanth
46	219Y1A04G9	V. Sushanth Reddy	ECE	Sushanth
47	219Y1A04H0	V. Vamsidhar Reddy	ECE	Vamsidhar Reddy
48	219Y1A04H1	V. MANASA	ECE	Manasa
49	219Y1A04H2	Y. Nandini	ECE	Nandini
50	219Y1A04H6	V. erurusai Yadav	ECE	erurusai
51	219Y1A04H3	Y. Uday Kumar Reddy	ECE	Uday
52	219Y1A04H4	K. Y. Kothi Chakradhar Reddy	ECE	Chakradhar
53	219Y1A04H5	K. Mohammed Rayaz	ECE	Rayaz
54	229Y5A0401	K. mahammad Rayaz	ECE	Rayaz
55	229Y5A0402	D. Maheshwari	ECE	Maheshwari
56	229Y5A0403	D. ABHISHEK	ECE	Abhishek
57	229Y5A0404	ET. Lavanya	ECE	ET. Lavanya

58	229Y5A0405	Ganjukanta Sowjanya	ECE	G. Sowjanya
59	229Y5A0406	GANTAPARA JAGRAN	ECE	Jagrani
60	22945A0407	Golla Anjitha	ECE	Golla Anjitha


Coordinator


HOD/H&S
Dr. I. SREEVANI M.Sc., Ph.D.
Head of Humanities & Sciences
K.S.R.M. College of Engineering
KADAPA - 516 005

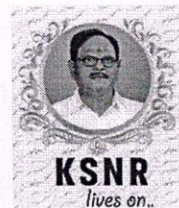


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Gender Sensitization

COURSE DESCRIPTION:

This course offers an introduction to Gender Studies, an interdisciplinary field that asks critical questions about the meanings of sex and gender in society. The primary goal of this course is to familiarize students with key issues, questions and debates in Gender Studies, both historical and contemporary. It draws on multiple disciplines – such as literature, history, economics, psychology, sociology, philosophy, political science, anthropology and media studies – to examine cultural assumptions about sex, gender, and sexuality.

This course integrates analysis of current events through student presentations, aiming to increase awareness of contemporary and historical experiences of women, and of the multiple ways that sex and gender interact with race, class, caste, nationality and other social identities. This course also seeks to build an understanding and initiate and strengthen programmes combating genderbased violence and discrimination. The course also features several exercises and reflective activities designed to examine the concepts of gender, gender-based violence, sexuality, and rights. It will further explore the impact of gender-based violence on education, health and development.

Course Objectives:

- To develop students' sensibility with regard to issues of gender in contemporary India.
- To provide a critical perspective on the socialization of men and women.
- To introduce students to information about some key biological aspects of genders.
- To expose the students to debates on the politics and economics of work.
- To help students reflect critically on gender violence.
- To expose students to more egalitarian interactions between men and women.

UNIT – IV: GENDER - BASED VIOLENCE The Concept of Violence- Types of Gender-based Violence-Gender-based Violence from a Human Rights Perspective-Sexual Harassment: Say No! -Sexual Harassment, not Eve-teasing- Coping with Everyday Harassment- Further Reading: “Chupulu”. Domestic Violence: Speaking Out Is Home a Safe Place? -When Women Unite [Film]. Rebuilding Lives. Thinking about Sexual Violence Blaming the Victim-“I Fought for my Life....”

UNIT – V: GENDER AND CULTURE Gender and Film-Gender and Electronic Media-Gender and Advertisement-Gender and Popular Literature- Gender Development Issues-Gender Issues-Gender Sensitive Language-Gender and Popular Literature - Just Relationships: Being Together as Equals Mary Kom and Onler. Love and Acid just do not Mix. Love Letters. Mothers and Fathers. Rosa Parks The Brave Heart

.Classes will consist of a combination of activities: dialogue-based lectures, discussions, collaborative learning activities, group work and in-class assignments. Apart from the above prescribed book, Teachers can make use of any authentic materials related to the topics given in the syllabus on “Gender”.

ESSENTIAL READING: The Textbook, “Towards a World of Equals: A Bilingual Textbook on Gender” written by A.Suneetha, Uma Bhrugubanda, Duggirala Vasanta, Rama Melkote, Vasudha Nagaraj, Asma Rasheed, Gogu Shyamala, Deepa Sreenivas and Susie Tharu published by Telugu Akademi, Telangana Government in 2015.

ASSESSMENT AND GRADING:

Discussion & Classroom Participation: 50%

Project/Assignment: 30%

End test : 20%


Coordinator


HoD

Dr. I. SREEVANI M.Sc., Ph.D.
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Course Schedule

Venue : Communicative English Lab

Day & Date	Name of the Topic	Name of the instructor Resource Person	Timing
22/02/2022	Introduction on Gender Sensitization	K.Eswar Reddy	4.00pm - 5.00pm
23/02/2022	UNIT – I UNDERSTANDING GENDER	N.Raghunatha Reddy	4.00pm - 5.00pm
24/02/2022	Socialization: Making Women,	.K.Eswar Reddy	4.00pm - 5.00pm
25/02/2022	Making Men (Towards a World of Equals:	Dr.K.Ramesh Rao	4.00pm - 5.00pm
26/02/2022	Preparing for Womanhood. Growing up Male	N.Raghunatha Reddy	4.00pm - 5.00pm
28/02/2022	Caste. Different Masculinities.	N.Raghunatha Reddy	4.00pm - 5.00pm
02/03/2022	First lessons in Caste. Different Masculinities.	Sri. K.Eswar Reddy	4.00pm - 5.00pm
03/03/2022	UNIT – II GENDER AND BIOLOGY Missing Women	N.Raghunatha Reddy	4.00pm - 5.00pm
04/03/2022	Sex Selection and Its Consequences	Dr.K.Ramesh Rao	4.00pm - 5.00pm
05/03/2022-	Declining Sex Ratio. Demographic Consequences	N..Raghunatha Reddy	4.00pm - 5.00pm
07/03/2022	Gender Spectrum	.K.Eswar Reddy	4.00pm - 5.00pm
08/03/2022	Beyond the Binary (Towards a World of Equals	N.Raghunatha Reddy	4.00pm - 5.00pm
10/03/2022	UNIT – III: GENDER AND LABOUR Division and Valuation of Labour-Housework:	N.Raghunatha Reddy	4.00pm - 5.00pm
11/03/2022	The Invisible Labor- “My Mother doesn’t Work.” Share the Load.”-Work: Its Politics and Economics	Sri. K.Eswar Reddy	4.00pm - 5.00pm
13/03/2022	:Its Politics and Economics -Fact and Fiction. Unrecognized and Unaccounted work.	N.Raghunatha Reddy	4.00pm - 5.00pm
14/03/2022	Gender Development Issues-	Dr.K.Ramesh Rao	4.00pm - 5.00pm

15/03/2022	Gener, Governance and Sustainable Development	N..Raghunatha Reddy	4.00pm - 5.00pm
16/03/2022	Gender and Human Rights-Gender and Mainstreaming	.K.Eswar Reddy	4.00pm - 5.00pm
17/03/2022	UNIT – IV: GENDER - BASED VIOLENCE The Concept of Violence	N.Raghunatha Reddy	4.00pm - 6.00pm
19/03/2022	Gender-based Violence from a Human Rights Perspective-Sexual Harassment:	.K.Eswar Reddy	4.00pm - 5.00pm
21/03/2022	Coping with Everyday Harassment- Further Reading: “Chupulu”. Domestic Violence:	Dr.K.Ramesh Rao	4.00pm - 5.00pm
22/03/2022	UNIT- V: GENDER AND CULTURE Gender and Film-Generder an Electronic Media-	.K.Eswar Reddy	4.00pm - 5.00pm
23/03/2022	Gender and Popular Literature-	Dr.K.Ramesh Rao	4.00pm - 5.00pm
24/03/2022	Gender Development Issues-Gender Issues- Gender Sensitive Language	.K.Eswar Reddy	4.00pm - 6.00pm
25/03/202226/	Gender and Popular Literature	Dr.K.Ramesh Rao	4.00pm - 5.00pm
26/03/2022	Gender Development Issues-	.K.Eswar Reddy	4.00pm - 5.00pm
28/03/2022	Gender Sensitive Language	Dr.K.Ramesh Rao	4.00pm - 5.00pm
29/03/2022	REVISION	Sri. K. Eswar Reddy	4.00pm - 5.00pm
30/03/2022	VALEDICTORY FUNCTION AND CERTIFICATE DISTRIBUTION	Sri.N. Bhaskara Reddy Dr. I. Sreevani, HoD	4.00pm - 5.00pm


Coordinator


HOD H&S

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Name of the event: - Certificate course on Gender Sensitization

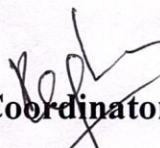
Date: 22.02.202

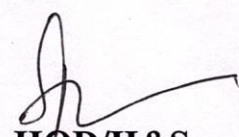
Venue: Communicative English Lab

List of Participants

S.NO	Roll Number	Name of the student	Branch	Signature
1	219Y1A04D4	POTU . Gangathri	III & ECE	P.gangathri
2	219Y1A04D5	P. Chandrabhawan Reddy	ECE	C.Reddy
3.	219Y1A04D6	P. Meghana	ECE	P.meghana
4.	219Y1A04D7	Rallapalle . Sainath	ECE	R. Sainath
5.	219Y1A04D8	Roddoll Siva Tejesh	ECE	Roddy
6.	219Y1A04D9	Sagili Nounika	ECE	Sagili
7.	219Y1A04E0	sagili Swathi	ECE	Swathi
8.	219Y1A04E1	Sammata Venkata nik	ECE	venkata
9	219Y1A04E2	sampathi BHEEMSH	ECE	Bheemsh
10	219Y1A04E3	SAYYAD Rattiman	ECE	Rattiman
11	219Y1A04E4	S. ARSHAD	ECE	ARSHAD
12	219Y1A04E5	S. GHOUSELAZAM	ECE	GHOUSELAZAM
13.	219Y1A04E6	S. Mohd. Ash	ECE	S. Mohd
14	219Y1A04E7	Shaik. Mohammad	ECE	S. Mohammed
15.	219Y1A04E8	Shaik. Mohammed Hameed	ECE	S. Mohd hameed
16	219Y1A04E9	Shaik. Mohasina Tabasrum	ECE	S. Mohasina
17	219Y1A04F1	Shaik . Wajeed Ahmed,	ECE	S. wajeed
18	219Y1A04F2	Shaik . Zakeer Basha	ECE	S. Zakeer
19	219Y1A04F3	Sirasala Srinath.	ECE	S. Srinath
20.	219Y1A04F4	Soddala . Manasa	ECE	S. Manasa
21	219Y1A04F6	Sura . Bargave	ECE	S. Bargave
22.	219Y1A04E7	SURABOYANTH . SRIKANTH	ECE	S. Srikanth
23.	219Y1A04F8	Surala . Sumalatha	ECE	S. Sumalatha
24	219Y1A04H0	venuthula vamsidhan.	ECE	V. vamsidhan

25	219Y1A04F9	T. BHARGAVI	ECE	Bhargavi
26	219Y1A04G0	T. MAHEN	ECE	MAHEN
27	219Y1A04G2	V. PRASHANTH	ECE	PRASHANTH
28	219Y1A04G3	V. Prasad Reddy	ECE	PrReddy
29.	219Y1A04G4	V. Gangethri	ECE	V. gangethri
30	219Y1A04G5	V. Kiran	ECE	V. Kiran.
31	219Y1A04G6	V. Sai	ECE	Sai
32	219Y1A04G7	V. Shaila. Murad	ECE	V. S.
33	219Y1A04G8	V. Padmakan	ECE	P
34.	219Y1A04G9	Vennapusa Sushanth.	ECE	V. Sushanth.
35.	219Y1A04H1	V. Mangasa (w)	ECE	V. Mangasa
36.	219Y1A04H4	Y. Chakra	ECE	Y. Chakra
37	219Y1A04H2	Yallanaga Nadini	ECE	Y. Nadini
38	219Y1A04H3	Y. Udaykumar.	ECE	Y. Uday.
39	229Y5A0401	B Jayasree	ECE	Jayasree
40	219Y1A04H5	Kalamalla Mahamma	ECE	K. Mahamma


Coordinator


HOD/H&S
Dr. I. SREEVANI M.Sc., Ph.D.
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KADAPA 516005



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Certification Course on Gender Sensitization

Dates

22-02-2022 to 30-03-2022

Convener

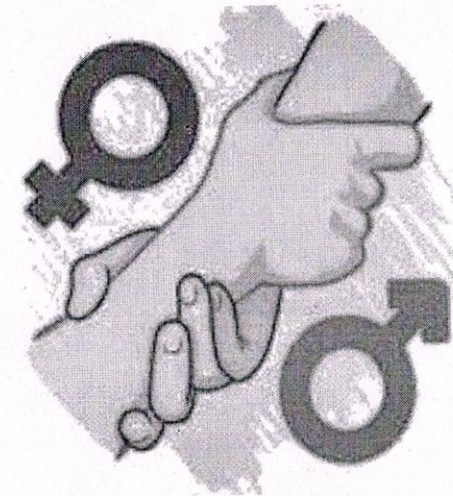
Dr. I. Sreevani, HOD, H&S

Course Instructors

Dr. K. Ramesh Rao, Asst. Prof
Sri. K. Eswara Reddy, Asst. Prof

Coordinator

Sri. N. Raghunatha Reddy,
Asst. Prof, Dept. of H&S



Dr. I. Sreevani
(HOD)

Dr. V.S.S. Murthy
(Principal)

Dr. Kandula Chandra Obul Reddy
(Managing Director, KGI)

Smt. K. Rajeswari
(Correspondent, Secretary & Treasurer)

Sri K. Madan Mohan Reddy
(Vice - Chairman)

Sri K. Raja Mohan Reddy
(Chairman)

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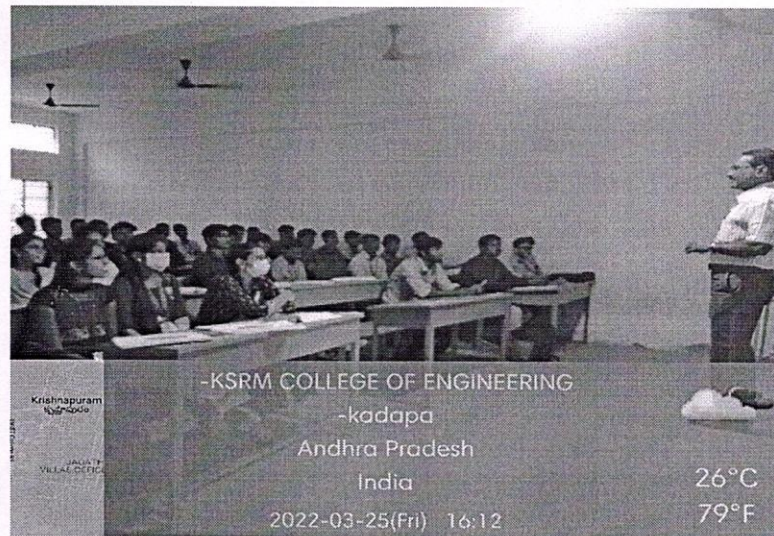
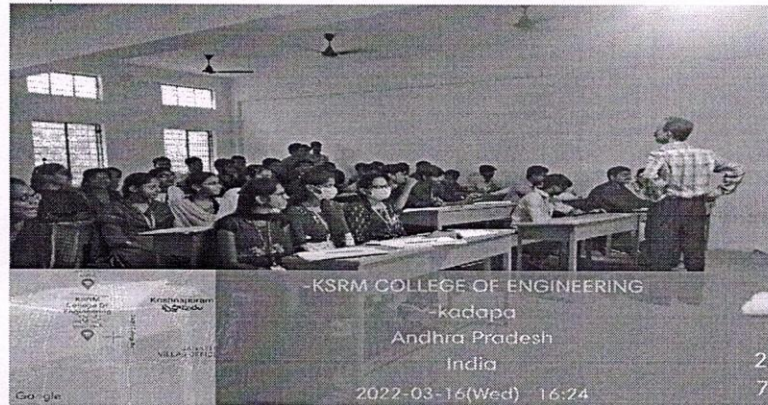
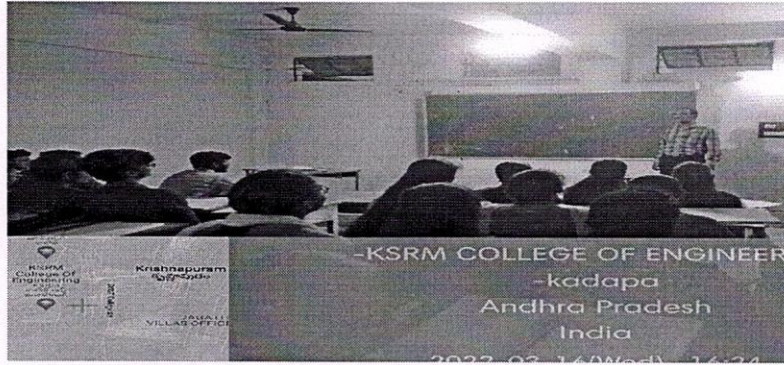
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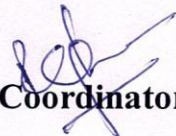


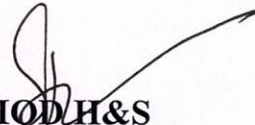
Activity Report

Name of the Activity	Certification course on Gender Sensitization
Type of Activity	Language Enhancement Activity
Date of Activity	22 nd Feb 2022 to 30 th March 2022
Details of Participants	students- 40
Coordinator(s)	N.Raghunatha Reddy
Resource Persons	Sri.k.Eswar Reddy, Dr.K. Ramesh Rao
Convener	Dr. Sreevani. Indireddi. HoD, Humanities and Sciences
Organizing Dept. /Support System	Faculty of English - Humanities and Sciences Department
Description	A Certificate Course on Gender Sensitization was evolved and taken up by the Department of Humanities and Sciences from 22 nd Feb 2022 to 30 th March 2022. The coordinator for this programme is Sri.N.Raghunatha Reddy faculty in English. Dr.K.Ramesh Rao and Sri.K.Eswar Reddy faculty in English, were the resource persons for this Certificate course. 60 students have registered and 40 students attended the certificate course with utmost enthusiasm. Feedback was collected from the students at the end of the course.

Photos




Coordinator


HOD H&S
Dr. I. SREEVANI M.Sc., Ph.D.
Head of Humanities & Sciences
K.S.R.M. College of Engineering
KADAPA - 516 005



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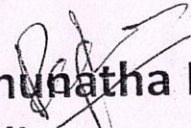


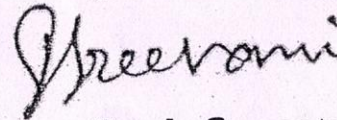
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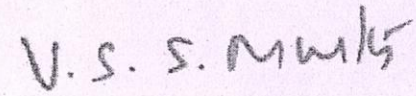
Certificate of Completion

This is to certify that ~~Mr.~~/Ms. POTU. GANGOTHRI

bearing Roll No. 21941A04D4 has successfully completed
his/her Certification Course on Gender Sensitization organized
from 22.02.2022 to 30.03.2022


N. Raghunatha Reddy
Coordinator


Dr. I. Sreevani
HOD


Dr. V. S. S. Murthy
Principal



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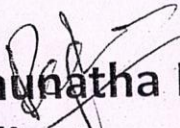


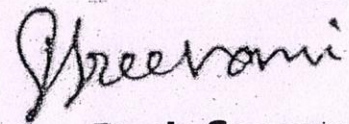
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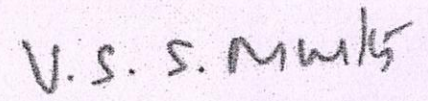
Certificate of Completion

This is to certify that Mr./~~Ms.~~ SIRASALA SRINATH

bearing Roll No. 219Y1A04E3 has successfully completed
his/her Certification Course on Gender Sensitization organized
from 22.02.2022 to 30.03.2022


N. Raghunatha Reddy
Coordinator


Dr. I. Sreevani
HOD


Dr. V. S. S. Murthy
Principal



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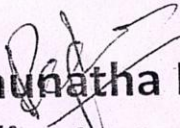


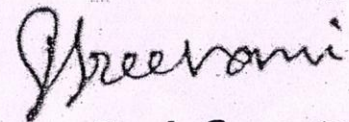
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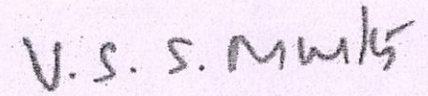
Certificate of Completion

This is to certify that ~~Mr./Ms.~~ JHALARI BHARGAVI

bearing Roll No. 219Y1A04F9 has successfully completed
his/her Certification Course on Gender Sensitization organized
from 22.02.2022 to 30.03.2022


N. Raghunatha Reddy
Coordinator


Dr. I. Sreevani
HOD


Dr. V. S. S. Murthy
Principal



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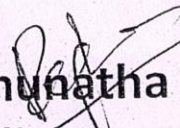


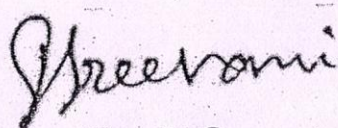
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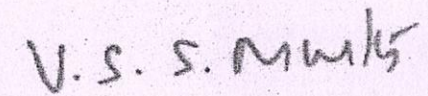
Certificate of Completion

This is to certify that ~~Mr./Ms.~~ VUNDELA MANASA

bearing Roll No. 21941A04H1 has successfully completed
his/her Certification Course on Gender Sensitization organized
from 22.02.2022 to 30.03.2022


N. Raghunatha Reddy
Coordinator


Dr. I. Sreevani
HOD


Dr. V. S. S. Murthy
Principal



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Feedback Form on Certificate Course On "GENDER SENSITIZATION "

31st March 2022

Organized by the Department of Humanities and Sciences

1. Please rate your overall satisfaction with Certificate course.

() Excellent () Good () Satisfactory () Dissatisfactory

2. Resource persons have explained well and made me understand the objectives well

() Excellent () Good () Satisfactory () Dissatisfactory

3. Rate the interaction of the resource persons with the students

() Excellent () Good () Satisfactory () Dissatisfactory

4. Do you feel the programme has met its Aims & Objectives?

() Yes () No

5. How best you rate the knowledge gained by you from this certificate course.

() Excellent () Good () Satisfactory () Dissatisfactory

Signature of the Participant

Feedback analysis Gender sensitization

Roll number	Name of the student	Semester & Branch	Please rate your overall satisfaction with Certificate.	Resource persons have explained well & made me understand the objectives well	Rate the interaction of the resource persons with the students	Do you feel the programme has met its Aims & Objectives?	How best you rate the knowledge gained by you from this Certificate course.
219Y1A04D4	POTU GANGOTHRI (W)	III & ECE	Good	Excellent	Good	Yes	Satisfactory
219Y1A04D5	PULASANI CHANDRA HA	III & ECE	Satisfactory	Excellent	Excellent	Yes	Excellent
219Y1A04D6	PULLALAREVU MEGHAN	III & ECE	Excellent	Excellent	Good	Yes	Excellent
219Y1A04D7	RALLAPALLI SAINATH	III & ECE	Good	Excellent	Excellent	Yes	Excellent
219Y1A04D8	RODDOLLA SIVA TEJESV	III & ECE	Good	Excellent	Excellent	Yes	Excellent
219Y1A04D9	SAGILI MOUNIKA (W)	III & ECE	Satisfactory	Excellent	Excellent	Yes	Excellent
219Y1A04E0	SAGILI SWATHI (W)	III & ECE	Excellent	Excellent	Satisfactory	Yes	Excellent
219Y1A04E1	SAMMETA VENKATA NIK	III & ECE	Excellent	Satisfactory	Excellent	Yes	Excellent
219Y1A04E2	SAMPATHI BHEEMESH	III & ECE	Excellent	Excellent	Excellent	Yes	Excellent
219Y1A04E3	SAYYAD RAHIMAN	III & ECE	Excellent	Excellent	Excellent	Yes	Excellent
219Y1A04E4	SHAIK ARSHAD	III & ECE	Good	Excellent	Good	Yes	Excellent
219Y1A04E5	SHAIK GOUSELAZAM DA	III & ECE	Excellent	Excellent	Good	Yes	Excellent
219Y1A04E6	SHAIK MOHAMMAD AKH	III & ECE	Excellent	Excellent	Excellent	Yes	Excellent
219Y1A04E7	SHAIK MOHAMMAD ASH	III & ECE	Excellent	Excellent	Excellent	Yes	Excellent

Roll number	Name of the student	Semester & Branch	Please rate your overall satisfaction with Certificate.	Resource persons have explained well & made me understand the objectives well	Rate the interaction of the resource persons with the students	Do you feel the programme has met its Aims & Objectives?	How best you rate the knowledge gained by you from this Certificate course.
219Y1A04E8	SHAIK MOHAMMED HUS	III & ECE	Good	Excellent	Excellent	Yes	Excellent
219Y1A04F0	SHAIK MOHASINA TABAS	III & ECE	Excellent	Good	Excellent	Yes	Good
219Y1A04F1	SHAIK WAJEED AHAMED	III & ECE	Excellent	Excellent	Satisfactory	Yes	Excellent
219Y1A04F2	SHAIK ZAKEER BASHA	III & ECE	Good	Excellent	Excellent	Yes	Excellent
219Y1A04F3	SIRASALA SRINATH	III & ECE	Good	Excellent	Satisfactory	Yes	Excellent
219Y1A04F4	SODDALA MANASA (W)	III & ECE	Excellent	Excellent	Satisfactory	Yes	Excellent
219Y1A04F6	SURA BARGAVI (W)	III & ECE	Good	Excellent	Excellent	Yes	Excellent
219Y1A04F7	SURABOYANA SRIKANT	III & ECE	Excellent	Excellent	Good	Yes	Good
219Y1A04F8	SUVALA SUMALATHA (W)	III & ECE	Excellent	Satisfactory	Excellent	Yes	Excellent
219Y1A04F9	THALARI BHARGAVI (W)	III & ECE	Excellent	Excellent	Excellent	Yes	Excellent
219Y1A04G0	THIMMAGANDLA MAHEN	III & ECE	Excellent	Excellent	Excellent	Yes	Excellent
219Y1A04G2	V PRASHANTH	III & ECE	Excellent	Excellent	Satisfactory	Yes	Excellent
219Y1A04G3	VASANTHU REDDY PRAS	III & ECE	Excellent	Excellent	Excellent	Yes	Excellent
219Y1A04G4	VELPULA GANGOTHRI (W)	III & ECE	Excellent	Excellent	Excellent	Yes	Excellent
219Y1A04G5	VELPULA KIRAN	III & ECE	Excellent	Excellent	Excellent	Yes	Excellent
219Y1A04G6	VEMPALAKU GURU SAI	III & ECE	Excellent	Excellent	Good	Yes	Excellent

Roll number	Name of the student	Semester & Branch	Please rate your overall satisfaction with Certificate.	Resource persons have explained well & made me understand the objectives well	Rate the interaction of the resource persons with the students	Do you feel the programme has met its Aims & Objectives?	How best you rate the knowledge gained by you from this Certificate course.
219Y1A04G7	VENKANNAPALLI SHAIK	III & ECE	Excellent	Excellent	Excellent	Yes	Excellent
219Y1A04G8	VENNAPUSA PADMAKAN	III & ECE	Excellent	Excellent	Satisfactory	Yes	Excellent
219Y1A04G9	VENNAPUSA SUSHANTH	III & ECE	Excellent	Excellent	Excellent	Yes	Excellent
219Y1A04H0	VENUTHURLA VAMSIDH	III & ECE	Excellent	Excellent	Excellent	Yes	Excellent
219Y1A04H1	VUNDELA MANASA (W)	III & ECE	Satisfactory	Good	Excellent	Yes	Satisfactory
219Y1A04H2	YALLANURU NANDINI (W)	III & ECE	Good	Excellent	Excellent	Yes	Excellent
219Y1A04H3	YARRANAGU UDAYKUM	III & ECE	Excellent	Excellent	Excellent	Yes	Excellent
219Y1A04H4	YENUGA KATHI CHAKRA	III & ECE	Good	Excellent	Excellent	Yes	Excellent
219Y1A04H5	KALAMALLA MAHAMMA	III & ECE	Satisfactory	Excellent	Excellent	Yes	Excellent
229Y5A0401	B JAYASREE(W)	III & ECE	Excellent	Excellent	Good	Yes	Satisfactory

Pop

[Signature]
HOD H&S

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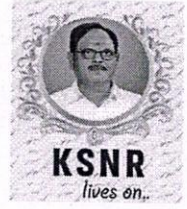


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Course Material:

Gender sensitization refers to **the raising sensitization of Gender Sensitization concerns**. It helps people in examining their personal attitudes and beliefs and questioning the realities of both sexes. ... Gender is Socially Learned behavior, based on social expectation from Men & Women.

What is Gender Sensitization and its importance *?

Gender Sensitization is a **basic requirement to understand the sensitive needs of a particular gender**. It helps us to examine our personal attitudes and beliefs and question the 'realities' that we thought we know. ... Educational spaces instil thought and make one have a perception that they believe.06-Jan-2018

What is Gender Sensitization in sociology?
Gender sensitization generally refers to **theories which claim that modification of the behaviour of teachers and parents (etc.) towards children can have a causal effect on gender equality**. ... Gender sensitivity helps to generate respect for the individual regardless of sex.16-Jul-2018

What is the process of Gender Sensitization?

Need of Gender Sensitization

As gender sensitization is a **process of behavioral change by instilling empathy into the views that people hold about their own and other sex**. The constitution of India provides for equality of status and opportunity to all the citizens in the country .

What is impact of Gender Sensitization?

Gender sensitization, therefore, can **foster meaningful participation and better integration of women into development process** and can lead to better impact on women of different projects, programmes and policies. ... Such an exposure will bring a definite change in attitude and perception of students towards gender.

What do you mean by sensitization?

1 : **the action or process of making sensitive or hypersensitive** allergic sensitization of the skin. 2 : the process of becoming sensitive or hypersensitive (as to an antigen) also : the resulting state.

What are the objectives of Gender Sensitization?

Main objective of Gender Sensitization cell are:

To provide an integrated and interdisciplinary approach to understand the social and cultural constructions of gender that shapes the experiences of women and men in society.

To generate the awareness in regard to equality in law, social system and democratic activities.30-Jun-2021

What is gender sensitization and children?

Children tend to **distinguish between their likes and dislikes based on their observations at home and the environment they are surrounded by.** Gender sensitivity can bring a positive impact on the growth of the children, their choices, their development, and the kind of individuals they turn out to be eventually.13-Mar-2019

How do you promote gender sensitization?

12 Steps to Achieve Gender Sensitization in Our Lifetimes

1. Talk to women and girls. ...
2. Let girls use mobile phones. ...
3. Stop child marriage and sexual harassment. ...
4. Make education gender sensitive. ...
5. Raise aspirations of girls and their parents. ...
6. Empower mothers. ...
7. Give proper value to 'women's work' ...
8. Get women into power.

Why is gender sensitivity important?

The concept of gender sensitivity is **a way to reduce the barriers caused due to discrimination and gender bias.** Creating the right kind of gender-sensitive environment leads to mutual respect regardless of their gender.23-Jul-2021

Why is gender sensitivity important in our society today?

Gender awareness raising plays an important role in informing women and men about gender equality, the benefits of a more gender-equal society and the consequences of gender inequality.

... Gender awareness raising **intends to change attitudes, behaviours and beliefs that reinforce inequalities between women and men.**21-Jan-2015

What is a sensitization example?

Sensitization is the strengthening of a neurological response to a stimulus due to the response to a secondary stimulus. For example, **if a loud sound is suddenly heard**, an individual may startle at that sound. ... It is essentially an exaggerated startle response, and is often seen in trauma survivors.

What causes sensitization?

Sensitization is the process that occurs after **neurogenic inflammation when neurons become more responsive to both nociceptive and non-nociceptive stimuli**, namely decrease in thresholds of response, increase in magnitude of response, expansion of receptive field, and emergence of spontaneous activity.

What is sensitization in biology?

Sensitization is the **process that occurs after neurogenic inflammation when neurons become more responsive to both nociceptive and non-nociceptive stimuli**, namely decrease in thresholds of response, increase in magnitude of response, expansion of receptive field, and emergence of spontaneous activity.

What is the role of education in gender sensitization?

Gender sensitization is possible with the help of education. ... **Education develops the leadership quality among women by self confidence and self esteem.** 5. Social awareness, Political awareness, health awareness can be better understood in the higher level with the help of higher education.

What is gender sensitivity example?

Indicators of gender-sensitive service include: **refraining from discriminating against or stereotyping clients on the basis of sex or gender**, treating all clients with equal respect, offering gender sensitivity training to all employees, and providing adequate representation of female care providers.

What is gender-sensitive governance?

Gender-sensitive governance addresses **these issues by ensuring that women have substantive representation in urban decision-making processes.** ... These include applying the principles of gender mainstreaming to urban planning and decision-making, ensuring that women and men are included equally in accountability processes.03-Aug-2016

Why is sensitization useful?

Sensitization thus enables **an animal to take advantage of statistical regularities in the occurrence of significant events**, without requiring it to detect other events that predict the significant ones.

Why is sensitization important?

Sensitization literally means **making people 'sensitive' about an issue**. This is the core of awareness raising and is what you ideally want to achieve – that people become aware and react to certain issues.

What is the process of Sensitisation?

In healthy individuals, **when the immune system registers a substance as a threat, B cells, a type of white blood cell, produce antibodies**. This is a process known as sensitisation and is part of the normal immune response. In allergic individuals, the immune system misidentifies a harmless substance as a threat.

What is sensitization behavior?

Behavioral sensitization is **the process whereby repeated, intermittent stimulant administration produces a progressively greater and enduring behavioral response. ...**

Further research is necessary to examine characteristics of sensitization in humans, including the neurobiological systems involved.



Coordinator



HoD

Dr. I. SREEVANI M.Sc., Ph.D.
Head of Humanities & Sciences
K.S.R.M. College of Engineering
KADAPA - 516 005

Course Title	ENVIRONMENTAL SCIENCE					B. Tech. CE, ME, EEE, ECE, CSE (II Sem)		
Course Code	Category	Hours/Week			Credits	Maximum Marks		
20MC210	MC	L	T	P	C	Continuou s Internal Assessment	End Exam s	Total
		3	--	--				
Mid Exam Duration: 2Hrs								
Course Objectives:								
<ul style="list-style-type: none"> To make the students to get awareness on environment. To understand the importance of protecting natural resources, ecosystems for future generations and pollution causes due to the day to day activities of human life. To save earth from the inventions by the engineers. 								
Course Outcomes: On successful completion of this course, the students will be able to								
CO 1	Explain multidisciplinary nature of environmental studies and various Renewable and Nonrenewable resources.							
CO 2	Understand the Energy flow, bio-geo chemical cycles and ecological pyramids							
CO 3	Illustrate various causes of pollution and related preventive measures.							
CO 4	Summarize Solid waste management, Social issues related to environment and their protection acts.							
CO 5	Evaluate Causes of population explosion, value education and welfare programmes.							

UNIT – I

Multidisciplinary Nature Of Environmental Studies: –Scope and Importance – Need for Public Awareness.

Natural Resources: Renewable and non-renewable resources – Natural resources and associated problems

Forest resources: deforestation, case studies – Mining, dams and other effects on forest and tribal people

Water resources: Use and over utilization of surface and ground water conflicts over water. Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies.

Energy resources: Renewable & Non-Renewable.

Learning Outcomes

- **Explain** the importance of public awareness
- **List** the various natural resources

UNIT – II

Ecosystems: Concept of an ecosystem. – Structure and function of an ecosystem – Producers, consumers and decomposers – Energy flow in the ecosystem – Food chains, food web- Ecological succession and ecological pyramids – Introduction, types, characteristic features, structure and function of the following ecosystem:

- a. Forest ecosystem.
- b. Desert ecosystem
- c. Aquatic ecosystems (lakes, rivers and oceans)

Biodiversity And Its Conservation : Introduction, Definition: genetic, species and ecosystem diversity – Bio-geographical classification of India – Value of biodiversity: consumptive use, Productive use, social, ethical, aesthetic and option values – Biodiversity at global levels – India as a mega-diversity nation – Hot-spots of biodiversity – Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts – Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

Learning Outcomes:

- Understand different types of ecosystems and their characteristics.
- Classify types of biodiversity and its conservation methods.

UNIT – III

Environmental Pollution: Definition, Cause, effects and control measures of:

- a. Air Pollution.
- b. Water pollution
- c. Soil pollution
- d. Marine pollution
- e. Noise pollution
- f. Thermal pollution
- g. Nuclear hazards

Solid Waste Management: Causes, effects and control measures of urban and industrial wastes – Role of an individual in prevention of pollution – Pollution case studies – Disaster management: floods, earthquake, cyclone and landslides.

Learning Outcomes:

- Identify various sources of pollution and solid waste along with preventive measures
- Explain the different types of disasters and their managerial measures.

UNIT – IV

Social Issues And The Environment: From Unsustainable to Sustainable development – Urban problems related to energy – Water conservation, rain water harvesting, its problems and concerns. Case studies – Environmental ethics: Issues and possible solutions – Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents. Environment Protection Act. – Air (Prevention and Control of Pollution) Act. – Water (Prevention and control of Pollution) Act – Wildlife Protection Act – Forest Conservation Act.

Learning Outcomes:

- **Outline** the social issues related to environment and their protection acts.(L2)
- **To know** about wild life protection , forest conservation act and conservation of natural resources (L2)

UNIT – V

Human Population And The Environment: Population growth, variation among nations. Population explosion – Family Welfare Programmes. – Environment and human health – Human Rights – Value Education – HIV/AIDS – Women and Child Welfare – Role of information Technology in Environment and human health.

Field Work: Visit to a local area to document environmental assets River/forest grassland/hill/mountain – Visit to a local polluted site-Urban/Rural/Industrial/Agricultural Study of common plants, insects, and birds – river, hill slopes, etc.

Learning Outcomes:

- **Illustrate** about the population explosion and family welfare programmes.(L2)
- **To identify** the natural assets and related case studies.(L3)

TEXT BOOKS:

1. Text book of Environmental Studies for Undergraduate Courses, Erach Bharucha for University Grants Commission, Universities Press.
2. Fundamental Concepts of Environmental Chemistry- Sodhi G S – Oxford University
3. Environmental Chemistry- Anil Kumar De-Willey Publications
4. Environment Impact Assessment- Larry W. Canter- Mc Graw Hill publications

REFERENCES:

1. G.R.Chatwal, “A Text Book of Environmental Studies” Himalaya Publishing House
2. Gilbert M. Masters and Wendell P. Ela, “Introduction to Environmental Engineering and Science, Prentice hall of India Private limited.
3. Environmental Science, A Global Concerns, William P. Cunningham, Mary Ann Cunningham, Mc Graw Hill publications.
4. Environmental Science & Engineering, Glynn Henry J ,Heinke Gary w, Pearson publications



K.S.R.M. COLLEGE OF ENGINEERING

(AUTONOMOUS)

Kadapa, Andhra Pradesh, India- 516 003

Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu.

An ISO 14001:2004 & 9001: 2015 Certified Institution



Department of Humanities and Sciences

TIME TABLE II-Sem (2021 – 2022)

Name of the faculty: Smt. M. Sujatha

Subject: Environmental science

DAY	09:00AM-10:00AM	10:00AM-11:00AM	11:00AM-12:00AM	12:00AM-01:00PM	01:00PM-02:00PM	02:00PM-03:00PM	03:00PM-04:00PM
Mon							
Tue							
Wed							
Thu							
Fri	EEE						
Sat					EEE		

Name of the faculty: Mr.D.Mallikarjuna Reddy

Subject: Environmental science

DAY	09:00AM-10:00AM	10:00AM-11:00AM	11:00AM-12:00AM	12:00AM-01:00PM	01:00PM-02:00PM	02:00PM-03:00PM	03:00PM-04:00PM
Mon							
Tue							
Wed							
Thu							
Fri	CSE-A						
Sat						CSE-A	

Name of the faculty: Dr.K.Venkata Ramana

Subject: Environmental science

DAY	09:00AM-10:00AM	10:00AM-11:00AM	11:00AM-12:00AM	12:00AM-01:00PM	01:00PM-02:00PM	02:00PM-03:00PM	03:00PM-04:00PM
Mon							
Tue							
Wed							
Thu		CSE-B					
Fri			CSE-B				
Sat							

Name of the faculty: Dr.R.Joyce Stella

Subject: Environmental science


DAY	09:00AM-10:00AM	10:00AM-11:00AM	11:00AM-12:00AM	12:00AM-01:00PM	01:00PM-02:00PM	02:00PM-03:00PM	03:00PM-04:00PM
Mon							
Tue			CSE-C				
Wed		CSE-C					
Thu							
Fri							
Sat							

Name of the faculty: Dr.B.Prashanti

Subject: Environmental science

DAY	09:00AM-10:00AM	10:00AM-11:00AM	11:00AM-12:00AM	12:00AM-01:00PM	01:00PM-02:00PM	02:00PM-03:00PM	03:00PM-04:00PM
Mon	CE		ME				ECE-A
Tue	ECE-A						
Wed							
Thu		ECE-B			ME		ECE-C
Fri						ECE-B	
Sat			ECE-C		CE		

Dept.Coordinator


HOD H&S
Dr. I. SREEVANI M.Sc., Ph.D.
Head of Humanities & Sciences
K.S.R.M. College of Engineering
KADAPA - 516 005

K.S.R.M. COLLEGE OF ENGINEERING (AUTONOMOUS), KADAPA-516005**I B.TECH ROLL LIST FOR THE ACADEMIC YEAR 2021-2022****BRANCH: CIVIL ENGINEERING****ROOM NO: CE-306**

S.NO	Roll No.	Name of the student	17-01-2022
1	219Y1A0101	ANAGONDI LAKSHMI NARASIMHA	
2	219Y1A0102	BANDARU SAI TEJA	
3	219Y1A0103	BELLAM VIVEK TEJA	
4	219Y1A0104	BUKKE MOUNIKA (W)	
5	219Y1A0105	CHOKKA KARTHIK	
6	219Y1A0106	DERINGULA SHIVAMANI	
7	219Y1A0107	ENARATHI SAI KUMAR	
8	219Y1A0108	GAMPA UDAY KIRAN	
9	219Y1A0109	GILLELA KALYANI (W)	
10	219Y1A0110	GUNDE SIDDARTHA NAIDU	
11	219Y1A0111	JETTY VISHNU VARDHAN	
12	219Y1A0112	KALISETY SUSHANTH	
13	219Y1A0113	KANDLLI SIVA KUMAR	
14	219Y1A0114	KODURU SREE CHARAN	
15	219Y1A0115	KOMMALURU VENKATA SUJITH	
16	219Y1A0116	KORIGEM NAGESH	
17	219Y1A0117	KOTAPATI SUDHARSHAN	
18	219Y1A0118	KOTHAPALLI AMARENDRANATH	
19	219Y1A0119	KUNCHEPU SAMBA SIVA	
20	219Y1A0120	MAKKARLA SURENDRA	
21	219Y1A0121	MANCHITI DEVENDRA REDDY	
22	219Y1A0122	MAYANA HAFSA KHANAM (W)	
23	219Y1A0123	MEKALA PAVAN KRISHNA	
24	219Y1A0124	MOPURI CHENNAIAH	
25	219Y1A0125	MUNAGALA SUNIL KUMAR REDDY	
26	219Y1A0126	MURUKUTI MADHUSUDHAN REDDY	
27	219Y1A0127	NAGANNAGARI YUVARANJANI (W)	
28	219Y1A0128	NAGARI SHAHID	
29	219Y1A0129	NALLAPAREDDIGARI BRAMHANANDA REDDY	
30	219Y1A0130	NARAYANA BHANU SUPRIYA (W)	
31	219Y1A0131	NETTURU NAGA SAI KIRAN	
32	219Y1A0132	NIMMANAPALLI MAHESH REDDY	
33	219Y1A0133	PAMIREDDY GANGI REDDY	
34	219Y1A0134	PEDULLAPALLE PRABHAS	
35	219Y1A0135	POCHAMREDDY SAI KRISHNA REDDY	
36	219Y1A0136	POTTIPATI DATTA SAI	
37	219Y1A0137	RACHAM REDDY PRAVEEN KUMAR REDDY	

S.NO	Roll No.	Name of the student	17-01-2022
38	219Y1A0138	RAMAIAH GARI LOKESH	
39	219Y1A0139	RAMANABOINA CHAKRI	
40	219Y1A0140	SADHU PAVANI (W)	
41	219Y1A0141	SANIBOINA SAI KUMAR	
42	219Y1A0142	SEELAM STEEVAN	
43	219Y1A0143	SHAIK KHAN MAHAMMAD SAIF	
44	219Y1A0144	SHAIK MOHAMMED FAZIL	
45	219Y1A0145	SHAIK MOHAMMED HUSSAIN	
46	219Y1A0146	SHAIK YUSUF	
47	219Y1A0147	SHAIK ZAKIR HUSSAIN	
48	219Y1A0148	SHAIK ZUBAIR AHMED	
49	219Y1A0149	SHAYAKALYA VISHNU	
50	219Y1A0150	SOMIREDDYPALLI KIRAN	
51	219Y1A0151	SYED ISMAIL JABIULLA	
52	219Y1A0152	SYED JAINUDDIN	
53	219Y1A0153	SYED JAVEED	
54	219Y1A0154	THAMMISSETTI ANIL KUMAR	
55	219Y1A0155	THUTE MOUNIKA (W)	
56	219Y1A0156	UBBARA OBUL REDDY	
57	219Y1A0157	VALLAMKONDU PRANAV RASHIK	
58	219Y1A0158	VEMURI BHUVANESWARI (W)	
59	219Y1A0159	VUSA JAGADEESH	
60	219Y1A0160	Y PRANEETH KUMAR REDDY	

K.S.R.M. COLLEGE OF ENGINEERING (AUTONOMOUS), KADAPA-516005**B.TECH-II SEMESTER ROLL LIST FOR THE ACADEMIC YEAR 2021-2022****BRANCH: ELECTRICAL & ELECTRONICS ENGG.****ROOM NO: CE-312**

S. NO	Roll No.	Name of the student
1	219Y1A0201	ALURU VIJAY KUMAR
2	219Y1A0202	AMBAVARAM SUSHMITHA (W)
3	219Y1A0203	BODIPALLI AJAY
4	219Y1A0204	BOGATHI ANILKUMAR REDDY
5	219Y1A0205	BOGGALA BHARATH KUMAR
6	219Y1A0206	BOJJAMMAGARI LAKSHMI KUMARI (W)
7	219Y1A0207	BUSETTY BHARGAVI (W)
8	219Y1A0208	CHALLA SHASHANK REDDY
9	219Y1A0209	CHERUKURU UMAR BASHA
10	219Y1A0210	CHINTA SAIKUMAR REDDY
11	219Y1A0211	CHITTIBOYINA JANASRI (W)
12	219Y1A0212	CIRIVELA SAI KUMAR
13	219Y1A0213	DANDE MOHAN
14	219Y1A0214	DASARI HARSHA VARDHAN
15	219Y1A0215	DUGGIREDDY CHARITHA (W)
16	219Y1A0216	DURNOOTHALA REDDYVARI HARI KRISHNA REDDY
17	219Y1A0217	ERAGAM REDDY KEERTHI (W)
18	219Y1A0218	GAJULA VENKATA KARTHIK
19	219Y1A0219	GANIGERI HARI KRISHNA
20	219Y1A0220	GUDURU MANASA (W)
21	219Y1A0221	GUJULLA SANTHOSH KUMAR YADAV
22	219Y1A0222	GURRAMPATI VENKATAHARITHADEVI (W)
23	219Y1A0223	KALLURU MANEESHA (W)
24	219Y1A0224	KARNA SREENIVASULA REDDY
25	219Y1A0225	KARREVULA SAITEJASWINI (W)
27	219Y1A0226	KASULA MOHAMMED ASIF
26	219Y1A0227	KATTAMEEDI SAVITHRI (W)
28	219Y1A0228	KONA NANDU (W)
29	219Y1A0229	KONDAKINDHA VIJAY KUMAR
30	219Y1A0230	LEKKALA AKASH REDDY
31	219Y1A0231	MADDURI CHARITHA (W)
32	219Y1A0232	MANI MANI DEEPIKA (W)
33	219Y1A0233	MEKALA NAGA DIVYA (W)
34	219Y1A0234	MEKALA YASWITHA (W)
35	219Y1A0235	MITTAPALLI VEMESH KUMAR REDDY
36	219Y1A0236	NALLANGARI SUDHARSHAN REDDY
37	219Y1A0237	NOOKANABOYENA NANDINI (W)
38	219Y1A0238	PAPANA SOMA SEKHAR REDDY
39	219Y1A0239	PULAKUNTA SOMASEKHAR
40	219Y1A0240	RACHAVEETI RAJESH

S. NO	Roll No.	Name of the student
41	219Y1A0241	SHAIK AFZAL
42	219Y1A0242	SHAIK BABA FARUK
43	219Y1A0243	SHAIK SAMIULLA
44	219Y1A0244	SUDHA SNEHALATHA (W)
45	219Y1A0245	SYED AFRIN SULTHANA (W)
46	219Y1A0246	SYED IERSHAD AMEENA (W)
47	219Y1A0247	SYED MOHAMMED SAHIL
48	219Y1A0248	TALISSETTY VENKATA HIMAVANTH KUMAR
49	219Y1A0249	THOTA VENKATA NAGA VARSHIKA (W)
50	219Y1A0250	YARRAGUNTLA SUSHMA (W)
51	219Y1A0251	YARRAGUNTLA SUSHMITHA (W)
52	219Y1A0252	YERRAWAGARI BHAVANA SREE (W)

K.S.R.M. COLLEGE OF ENGINEERING (AUTONOMOUS), KADAPA-516005			
I B.TECH ROLL LIST FOR THE ACADEMIC YEAR 2021-2022			
BRANCH: MECHANICAL ENGINEERING			ROOM NO:CE-109
S. NO	Roll No.	Name of the student	17-01-2022
1	219Y1A0301	BANGI SATHISH	
2	219Y1A0302	BATTALA SURESH	
3	219Y1A0303	BODHAM VIJAY KUMAR REDDY	
4	219Y1A0304	BUPATHI VISHNUVARDHAN	
5	219Y1A0305	CHAPPIDI CHARAN KUMAR REDDY	
6	219Y1A0306	CHINNABAYANNAGARI SAINATH REDDY	
7	219Y1A0307	CHINTAKOMMADINNE KARTHIK	
8	219Y1A0308	ERAGAM REDY SUNIL KUMAR REDDY	
9	219Y1A0309	ERAGAMREDDY RAMESH REDDY	
10	219Y1A0310	GAJULA VENKATA BHARATH	
11	219Y1A0311	GALI SIVA SANKAR	
12	219Y1A0312	GANDHAM TARUN	
13	219Y1A0313	GANUGAPENTA SURESH	
14	219Y1A0314	KODURU VEERA RAHUL REDDY	
15	219Y1A0315	LINGALA DWARAKANATHA REDDY	
16	219Y1A0316	METIKALA KASIPRATHAP	
17	219Y1A0317	SEELAM AKASH	
18	219Y1A0318	SHAIK WASEEM AKRAM	
19	219Y1A0319	SHAIK ALTHAF	
20	219Y1A0320	SHAIK ARSHAD BASHA	
21	219Y1A0321	SHAIK BABA AFZAL	
22	219Y1A0322	SHAIK MAHAMMAD SAJID	
23	219Y1A0323	SHAIK MOHAMMED IQBAL	
24	219Y1A0324	SHAIK MUDDU BAIGARI FARID	
25	219Y1A0325	SUNDUPALLI SAI MAHESH	
26	219Y1A0326	SYED IBRAHIM	
27	219Y1A0327	SYED MOHAMMAD THASIN	
28	219Y1A0328	THONDURU NAGA JAGADEESH REDDY	
29	219Y1A0329	YAPARALA VENKATA VAMSI KRISHNA	

K.S.R.M. COLLEGE OF ENGINEERING (AUTONOMOUS), KADAPA-516005**I B.TECH ROLL LIST FOR THE ACADEMIC YEAR 2021-2022****BRANCH: ELECTRONICS & COMMUNICATION ENGG. A/S ROOM NO: CE-315**

S. NO	Roll No.	Name of the student	17-01-2022
1	219Y1A0401	A VINOD KUMAR	
2	219Y1A0402	AGGOLLA REDDYI BABU	
3	219Y1A0403	ANKIREDDIGARI AKHILA (W)	
4	219Y1A0404	ANNAGIRI KAVYA (W)	
5	219Y1A0405	APPAKONDU CHANDRIKA (W)	
6	219Y1A0406	ARAVEEDU TRIVIKRAM	
7	219Y1A0407	AVULA BHANU PRAKASH	
8	219Y1A0408	B POORNIMA (W)	
9	219Y1A0409	BADUGU CHARAN	
10	219Y1A0410	BALAGUDDAM VISHNU VARDHAN REDDY	
11	219Y1A0411	BANDA SAI KIRAN	
12	219Y1A0412	BANDARU VIKRAM KALYAN	
13	219Y1A0413	BANGARU KARTHIK REDDY	
14	219Y1A0414	BEECHU REDDEMMA (W)	
15	219Y1A0415	BESTA VENKATA SUPRIYA (W)	
16	219Y1A0416	BHOJARAJU SURYA GANESH	
17	219Y1A0417	BOJJA GURU MAHENDRA	
18	219Y1A0418	BONASI CHINNI KRISHNA	
19	219Y1A0419	BUSAPALLI HARSHITHA (W)	
20	219Y1A0420	BYRI SHANMUKHA ANJANEYA	
21	219Y1A0421	CHALLA VENKATA VASANTH KUMAR REDDY	
22	219Y1A0422	CHATLA BALAKRISHNA RAJU	
23	219Y1A0423	CHENNA PAVAN KALYAN	
24	219Y1A0424	CHENNURU SRAVANTHI (W)	
25	219Y1A0425	CHEVULA VARA PRASAD	
26	219Y1A0426	CHIMMANI KIRAN KUMAR	
27	219Y1A0427	CHINTAKUNTA RENUKA (W)	
28	219Y1A0428	CHINTHALA RAVIKUMAR	
29	219Y1A0429	CHITHRASETTY KISHORE KUMAR	
30	219Y1A0430	CHITRA LAVANYA (W)	
31	219Y1A0431	CHITTEM LIKHITHA REDDY (W)	
32	219Y1A0432	CHITTIBOYINA AJAY KUMAR	
33	219Y1A0433	CHOWDAM USUVANDLA AKHIL	
34	219Y1A0434	DADU SHILPA (W)	
35	219Y1A0435	DALAI RATHNA SRIJA (W)	

S. NO	Roll No.	Name of the student	17-01-2022
36	219Y1A0436	DALAZAK FAHAD KHAN	
37	219Y1A0437	DASARI HEMALATHA (W)	
38	219Y1A0438	DASARI PRASANNA (W)	
39	219Y1A0439	DASARI SNEHITHA (W)	
40	219Y1A0440	DERANGULA HARI KRISHNA	
41	219Y1A0441	DIMMAGUDI RAJESWARI (W)	
42	219Y1A0442	DUDEKULA FARIDA (W)	
43	219Y1A0443	DUDEKULA NAGA LAKSHMI (W)	
44	219Y1A0444	GANGAVARAM SAI KONDA REDDY	
45	219Y1A0445	GANIMI REDDY NARASIMHA	
46	219Y1A0446	GANNI PREM KUMAR	
47	219Y1A0447	GEEDIPALLI SUSHMITHA (W)	
48	219Y1A0448	GODUGUNURU SUCHITRA (W)	
49	219Y1A0449	GORIGE GANESH	
50	219Y1A0450	GORIGE VENKATA KRISHNA	
51	219Y1A0451	GOTURU SREE HARSHITHA (W)	
52	219Y1A0452	GUBILI NARESH	
53	219Y1A0453	GUDAPUREDDY SRAVANI (W)	
54	219Y1A0454	GUDIPATI UDAY KUMAR	
55	219Y1A0455	IRAGAMREDDY ANITHA (W)	
56	219Y1A0456	JANGAMREDDY CHANDRAVATHI (W)	
57	219Y1A0457	JESTADI SHARMILA (W)	
58	219Y1A0458	JYOTHI VAMSI	

K.S.R.M. COLLEGE OF ENGINEERING (AUTONOMOUS), KADAPA-516005			
I B.TECH ROLL LIST FOR THE ACADEMIC YEAR 2021-2022			
BRANCH: ELECTRONICS & COMMUNICATION ENGG.		B/S	ROOM NO.: CE-316
S. NO	Roll No.	Name of the student	17-01-2022
1	219Y1A0459	KADIREDDY ANITHAKUMARI (W)	
2	219Y1A0460	KADIRI NITHIN KUMAR REDDY	
3	219Y1A0461	KAKARLA HARI KRISHNA REDDY	
4	219Y1A0462	KALLURU NAGA MANJULA (W)	
5	219Y1A0463	KALLURU VENKATA NAGA SAHITHI (W)	
6	219Y1A0464	KALVA NAGA POOJITHA (W)	
7	219Y1A0465	KAMBAM SAI NARASIMHA	
8	219Y1A0466	KAMIREDDY LAVANYA (W)	
9	219Y1A0467	KAMIREDDY MIDDE VISHNU VARDAN REDDY	
10	219Y1A0468	KANAPURAM SUDEEKSHITHA (W)	
11	219Y1A0469	KASTURI RADHA PRIYANJALI (W)	
12	219Y1A0470	KATAKAM AKHILA (W)	
13	219Y1A0471	KATIKA WASEEM AKTHAR	
14	219Y1A0472	KESAGALA ANAND	
15	219Y1A0473	KORA KASI OBUL REDDY	
16	219Y1A0474	KORAMUTLA NITHYA POOJAIAH	
17	219Y1A0475	KORIVI SRAVANI (W)	
18	219Y1A0476	KOVVURI AKHILA (W)	
19	219Y1A0477	KOYAVALLU CHAMUNDESWARI (W)	
20	219Y1A0478	KUNDA CHAITANYA SAI	
21	219Y1A0479	KUNDURU PRAVEEN	
22	219Y1A0480	KUNTUMALLE ASHOK	
23	219Y1A0481	KURAKU SINDHU PRIYA (W)	
24	219Y1A0482	KURUBA MOUNIKA (W)	
25	219Y1A0483	KURUVA MALLESH	
26	219Y1A0484	LINGAM HEMANTH KUMAR	
27	219Y1A0485	MADDILETI MOUNIKA (W)	
28	219Y1A0486	MADURU PRASANTH	
29	219Y1A0487	MALLAPPAGARI PRANAVI (W)	
30	219Y1A0488	MALLE VEERA BRAHMENDRA	
31	219Y1A0489	MALLE VENKATADRI	

S. NO	Roll No.	Name of the student	17-01-2022
32	219Y1A0490	MALLEPALLE NANDU (W)	
33	219Y1A0491	MANDLA SUMANTH	
34	219Y1A0492	MANGALI JANARDHAN	
35	219Y1A0493	MANGALI VENKATA CHAITANYA	
36	219Y1A0494	MANJULA VENKATA SUNIL KUMAR	
37	219Y1A0495	MANUPATI MALLIKARJUNA	
38	219Y1A0496	MARTHALA OBULAMMA(W)	
39	219Y1A0497	MARUBOYANI GOVARDHAN	
40	219Y1A0498	MEKALA CHINNAKRISHNA	
41	219Y1A0499	MITTAPAPAGARI DIWAKAR REDDY	
42	219Y1A04A0	MOODE SAI RAM NAIK	
43	219Y1A04A1	MUDDAM ANIL KUMAR	
44	219Y1A04A2	MUDUMALA SANDHYA (W)	
45	219Y1A04A3	MULINTI NALAPA REDDY.	
46	219Y1A04A4	N SAI JITHENDRA	
47	219Y1A04A5	NADIMINTI BHANU	
48	219Y1A04A6	NAGA REDDY VENKATA SREEJA (W)	
49	219Y1A04A7	NALI PAPARAYUDU	
50	219Y1A04A8	NALLAPU REDDY GARI HANUMANTHU REDDY	
51	219Y1A04A9	NALLGONDU VENKATA SAI VAMSI	
52	219Y1A04B0	NANDIMANDALAM DIVAKAR	
53	219Y1A04B1	NANDYALA MANOJ	
54	219Y1A04B2	NARREEDY SAHITIYA (W)	
55	219Y1A04B3	NARUBOINA MANEESHA (W)	
56	219Y1A04B4	NARUPALLE SWAPNA (W)	
57	219Y1A04B5	NEELA JAGADEESH	
58	219Y1A04B6	NIMMAKAYALA VISHNUVARDHAN REDDY	

K.S.R.M. COLLEGE OF ENGINEERING (AUTONOMOUS), KADAPA-516005

I B.TECH ROLL LIST FOR THE ACADEMIC YEAR 2021-2022

BRANCH: ELECTRONICS & COMMUNICATION ENGG. C/S ROOM NO.: CE-102

S. NO	Roll No.	Name of the student	17-01-2022
1	219Y1A04B7	NUNE SOHAN	
2	219Y1A04B8	OBUGANI RAVANAMMA (W)	
3	219Y1A04B9	OBULAREDDYGARI NAGENDRA KUMAR REDDY	
4	219Y1A04C0	ORVAKANTI NAVEEN KUMAR	
5	219Y1A04C1	P SANDEEP MUNI	
6	219Y1A04C2	PAGADA PULA VIJAYA SHIMHA PRASAD	
7	219Y1A04C3	PALAGIRI HANEEFA (W)	
8	219Y1A04C4	PAMALURI VENKATA KARTHIK	
9	219Y1A04C5	PAMULURU SATYA NARAYANA REDDY	
10	219Y1A04C6	PANNURU CHANDANA (W)	
11	219Y1A04C7	PANNURU MANIDEEP REDDY	
12	219Y1A04C8	PANNURU VASANTH REDDY	
13	219Y1A04C9	PATHAKOTA PRAVEEN KUMAR REDDY	
14	219Y1A04D0	PATTA DEVENDRA	
15	219Y1A04D1	PEDDABALUGANDLA MANJU (W)	
16	219Y1A04D2	PIDUGU SAI KUMAR REDDY	
17	219Y1A04D3	POLA RAMADEVI (W)	
18	219Y1A04D4	POTU GANGOTHRI (W)	
19	219Y1A04D5	PULASANI CHANDRA HASAN REDDY	
20	219Y1A04D6	PULLALAREVU MEGHANA (W)	
21	219Y1A04D7	RALLAPALLI SAINATH	
22	219Y1A04D8	RODDOLLA SIVA TEJESWARI (W)	
23	219Y1A04D9	SAGILI MOUNIKA (W)	
24	219Y1A04E0	SAGILI SWATHI (W)	
25	219Y1A04E1	SAMMETA VENKATA NIKHIL VARMA	
26	219Y1A04E2	SAMPATHI BHEEMESH	
27	219Y1A04E3	SAYYAD RAHIMAN	
28	219Y1A04E4	SHAIK ARSHAD	
29	219Y1A04E5	SHAIK GOUSELAZAM DASTHAGIRI	
30	219Y1A04E6	SHAIK MOHAMMED AKHIL	
31	219Y1A04E7	SHAIK MOHAMMED ASHFAQ	
32	219Y1A04E8	SHAIK MOHAMMED HUSSAIN	
33	219Y1A04E9	SHAIK MOHAMMED KHALEED	
34	219Y1A04F0	SHAIK MOHASINA TABASSUM (W)	
35	219Y1A04F1	SHAIK WAJEED AHAMED	
36	219Y1A04F2	SHAIK ZAKEER BASHA	
37	219Y1A04F3	SIRASALA SRINATH	
38	219Y1A04F4	SODDALA MANASA (W)	

S. NO	Roll No.	Name of the student	17-01-2022
39	219Y1A04F5	SODDALA VANI (W)	
40	219Y1A04F6	SURA BARGAVI (W)	
41	219Y1A04F7	SURABOINA SRIKANTH	
42	219Y1A04F8	SUVALA SUMALATHA (W)	
43	219Y1A04F9	THALARI BHARGAVI (W)	
44	219Y1A04G0	THIMMAGANDLA MAHENDRA	
45	219Y1A04G1	THONDURU BABA FAKRUDDIN	
46	219Y1A04G2	V PRASHANTH	
47	219Y1A04G3	VASANTHU REDDY PRASAD REDDY	
48	219Y1A04G4	VELPULA GANGOTHRI (W)	
49	219Y1A04G5	VELPULA KIRAN	
50	219Y1A04G6	VEMPALAKU GURU SAI YADAV	
51	219Y1A04G7	VENKANNAPALLI SHAIK MUSHARAF	
52	219Y1A04G8	VENNAPUSA PADMAKANTH REDDY	
53	219Y1A04G9	VENNAPUSA SUSHANTH REDDY	
54	219Y1A04H0	VENUTHURLA VAMSIDHAR REDDY	
55	219Y1A04H1	VUNDELA MANASA (W)	
56	219Y1A04H2	YALLANURU NANDINI (W)	
57	219Y1A04H3	YARRANAGU UDAY KUMAR REDDY	
58	219Y1A04H4	YENUGA KATHI CHAKRADHAR REDDY	

K.S.R.M. COLLEGE OF ENGINEERING (AUTONOMOUS), KADAPA-516005**I B.TECH ROLL LIST FOR THE ACADEMIC YEAR 2021-2022****BRANCH: COMPUTER SCIENCE & ENGINEERING A/S ROOM NO:CE 313**

S. NO	Roll No.	Name of the student	17-01-2022
1	219Y1A0501	ACHHAMMAGARI SUNEETHA (W)	
2	219Y1A0502	AEGUVAGADDA RANGANADH	
3	219Y1A0503	ANKAIAHGARI SUBHADRA (W)	
4	219Y1A0504	ANNAREDDY BINDUSREE (W)	
5	219Y1A0505	APKHAN ASIF KHAN	
6	219Y1A0506	APPUKONDU VENKATA SUBBA REDDY	
7	219Y1A0507	ARAVETI RUSHIKESAVA REDDY	
8	219Y1A0508	B SATHVIKA (W)	
9	219Y1A0509	BALAGANI NAVEEN	
10	219Y1A0510	BATHALA NAGARAJU	
11	219Y1A0511	BATTHALA SAI SAHAJA (W)	
12	219Y1A0512	BHARATHAKAVI KEERTHI (W)	
13	219Y1A0513	BHUMISANI JAGADEESWAR REDDY	
14	219Y1A0514	BONALA VENKATESWARLU	
15	219Y1A0515	BOYA VIJAY	
16	219Y1A0516	BUCHIREDDYGARI SREEHARSHITHA (W)	
17	219Y1A0517	BYREDDY GOWTHAMI (W)	
18	219Y1A0518	CHABUKSAWAR SHAIK MOHAMMED MUAZ	
19	219Y1A0519	CHANDA PADMAJA (W)	
20	219Y1A0520	CHEMUDURU SATHYA CHAKRADHAR	
21	219Y1A0521	CHIMALAPENTA CHINTU	
22	219Y1A0522	CHINNANNAGARI PULLAREDDY	
23	219Y1A0523	CHINNEGOWLLA DEVENDRA PRASAD	
24	219Y1A0524	CHINTAKAYALA SHAIK MEHERAJ (W)	
25	219Y1A0525	CHINTHAGINJALA INDUVADANA (W)	
26	219Y1A0526	CHINTHAGINJALA POOJITHA (W)	
27	219Y1A0527	CHINTHAKUNTA INDRA KUMAR	
28	219Y1A0528	CHODUBOYINA VASUDHA (W)	
29	219Y1A0529	CHOWDAPPAGOLLA RAVI	
30	219Y1A0530	CHUKKASANDEEPKUMAR	
31	219Y1A0531	DANDUBOYINA VAMSI KRISHNA YADAV	
32	219Y1A0532	DANTHAM REENA (W)	
33	219Y1A0533	DASARI BALAJI	
34	219Y1A0534	DASARI PAVITHRA (W)	
35	219Y1A0535	DASARI PRASANTHI (W)	

S. NO	Roll No.	Name of the student	17-01-2022
36	219Y1A0536	DERANGULA VENKATA NAGA MAHINDRA	
37	219Y1A0537	DERANGULA VENKATA PRITHVIRAJ ARYAN	
38	219Y1A0538	DHANIREDDY NANDITHA REDDY (W)	
39	219Y1A0539	DIDDEKUNTA VENKATA PRADEEP KUMAR	
40	219Y1A0540	DONDA HARIKA (W)	
41	219Y1A0541	DUDEKULA KANDUKURI SAI BALAJI	
42	219Y1A0542	DUDEKULA SUMANTH	
43	219Y1A0543	DUDIPALLI SHASHANK	
44	219Y1A0544	E.S. LOKENDRA KISHORE	
45	219Y1A0545	EDIGA SURYA PRAKASH	
46	219Y1A0546	G THIRUMALESH	
47	219Y1A0547	GAJJALA JAHNAVI (W)	
48	219Y1A0548	GAMPALA GRESU DEEVENA (W)	
49	219Y1A0549	GANGIKUNTA KEERTHANA (W)	
50	219Y1A0550	GANGIREDDY SRAVANI (W)	
51	219Y1A0551	GANI SIVA SHAILAJA (W)	
52	219Y1A0552	GANTA NAGA VENKATA SOWMYA (W)	
53	219Y1A0553	GATTUPALLI VENKATA SAI DHANUSH	
54	219Y1A0554	GODUGU ARCHANA (W)	
55	219Y1A0555	GODUGUNURU MANJULA (W)	
56	219Y1A0556	GONGATIKURUBA YUGANDHAR	
57	219Y1A0557	GOPAVARAM HARSHITH SAI	
58	219Y1A0558	GORUKALLU GOUTHAM	
59	219Y1A0559	GOTLURU SHANMUKA DATTA REDDY	
60	219Y1A0560	GUMMADISANI AJAY KUMAR REDDY	
61	219Y1A0561	GUNDA KEERTHI (W)	
62	219Y1A0562	GURRAMKONDA SUJINI (W)	
63	219Y1A0563	H G ASHOK BABU	
64	219Y1A0564	HANUMANAGUTHI VENKATA SIVA KUMAR	
65	219Y1A0565	INDUKURI MANVITHA REDDY (W)	
66	219Y1A0566	JONNADULA BHASKAR	

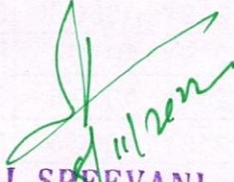
K.S.R.M. COLLEGE OF ENGINEERING (AUTONOMOUS), KADAPA-516005			
I B.TECH ROLL LIST FOR THE ACADEMIC YEAR 2021-2022			
BRANCH: COMPUTER SCIENCE & ENGINEERING		B/S	ROOM NO:CE 314
S. NO	Roll No.	Name of the student	17-01-2022
1	219Y1A0567	K DHANUSH	
2	219Y1A0568	KAANTULA RAJ KUMAR	
3	219Y1A0569	KADIRI SREEJA (W)	
4	219Y1A0570	KAKARLA NITHIN REDDY	
5	219Y1A0571	KALLURU MADHAVI (W)	
6	219Y1A0572	KALLURU SHARATH CHANDRIKA (W)	
7	219Y1A0573	KAMISSETTY LAKSHMI PRASANNA (W)	
8	219Y1A0574	KANDULA DHARANIKUMAR REDDY	
9	219Y1A0575	KANTHURI JASWANTH ROYAL	
10	219Y1A0576	KARIMALA REVANTH ACHARI	
11	219Y1A0577	KARLAKUNTA HARI KRISHNA	
12	219Y1A0578	KASA UMAMAHESWARI (W)	
13	219Y1A0579	KASUNURU SURYA KANTHAM (W)	
14	219Y1A0580	KAVALI ANJINEYULU	
15	219Y1A0581	KAYALI KUSUMA (W)	
16	219Y1A0582	KODURU JAYANTH	
17	219Y1A0583	KOLIMI KARTHIKEYAN	
18	219Y1A0584	KONDAMGARI SUDARSHAN	
19	219Y1A0585	KONETI PAVAN KALYAN	
20	219Y1A0586	KONNIPATI HARATHI (W)	
21	219Y1A0587	KOTHAPALLI IBRAHIM	
22	219Y1A0588	KOTTE GANESH RAM	
23	219Y1A0589	KUDAMALA RAVITEJA	
24	219Y1A0590	KUDUMULA JAGAN MOHAN REDDY	
25	219Y1A0591	KUMMETHA SHAHEEN (W)	
26	219Y1A0592	KURRA SIVANANDINI (W)	
27	219Y1A0593	KURUBA SHIVARAJU	
28	219Y1A0594	MACHA NAGA SANTHOSH	
29	219Y1A0595	MACHANURU ANUSHA (W)	
30	219Y1A0596	MADAKA APARNA (W)	
31	219Y1A0597	MADDIRALA PRAVEEN KUMAR REDDY	
32	219Y1A0598	MADDURU PAVITHRA (W)	
33	219Y1A0599	MADIGA SUSHMA SWARAJ (W)	
34	219Y1A05A0	MALEPATI MOULEESWAR REDDY	
35	219Y1A05A1	MALLANGI GAYATHRI (W)	

S. NO	Roll No.	Name of the student	17-01-2022
36	219Y1A05A2	MALLEBOYANA VENKATA SAI NIKHIL	
37	219Y1A05A3	MALLEPALLI BHARATHI (W)	
38	219Y1A05A4	MALLI LAKSHMI DEVI (W)	
39	219Y1A05A5	MAMILLA SREE PRASANNA DURGA (W)	
40	219Y1A05A6	MANCHURI VINDHYA (W)	
41	219Y1A05A7	MANDLA LAKSHMI BHAVANI (W)	
42	219Y1A05A8	MANNAJI MOHAMMED ASIF	
43	219Y1A05A9	MARTHANI VINILA (W)	
44	219Y1A05B0	MITTAMANUPALLE HEMALATHA (W)	
45	219Y1A05B1	MOGALI SESA ROHITH	
46	219Y1A05B2	MOPURU BINDHU LATHA (W)	
47	219Y1A05B3	MOTAKATLA CHARAN	
48	219Y1A05B4	MUDIYAM GURU NAVEEN	
49	219Y1A05B5	MULLA MOHAMMAD SHASHA VALI	
50	219Y1A05B6	MUTYALA RAGHAVENDRA	
51	219Y1A05B7	NADINDLA RAFIUL REHAMAN	
52	219Y1A05B8	NADINDLA RIYAZUL REHAMAN	
53	219Y1A05B9	NAGELLA NAGA BRAMHAM	
54	219Y1A05C0	NANDANOR SASIDHAR	
55	219Y1A05C1	NATHIKONDA VENKATA VENU	
56	219Y1A05C2	NESE ESTHER RANI (W)	
57	219Y1A05C3	NIRAJ KUMAR	
58	219Y1A05C4	NOOKANABOINA REDDAMMA (W)	
59	219Y1A05C5	ONTEDDU SAI KUMAR REDDY	
60	219Y1A05C6	P R SUPRASANNA (W)	
61	219Y1A05C7	PAGIDIPALLE RASOOL BEE (W)	
62	219Y1A05C8	PALAGIRI BABJAN	
63	219Y1A05C9	PALLA VENKATA CHENNAKESAVA	
64	219Y1A05D0	PARADESI HARSHITHA (W)	
65	219Y1A05D1	PARAMATURU SOMALATHA (W)	
66	219Y1A05D2	PASULA SREENATH	

K.S.R.M. COLLEGE OF ENGINEERING (AUTONOMOUS), KADAPA-516005**I B.TECH ROLL LIST FOR THE ACADEMIC YEAR 2021-2022****BRANCH: COMPUTER SCIENCE & ENGINEERING C/S ROOM NO:CE 102**

S. NO	Roll No.	Name of the student	17-01-2022
1	219Y1A05D3	PATAN KARIMULLA	
2	219Y1A05D4	PATNAM SAI KRISHNA	
3	219Y1A05D5	PEDDA POTHALA AKHIL	
4	219Y1A05D6	PEDDAHOTHURU SAINIVEDITHA (W)	
5	219Y1A05D7	PEDDAMUDIUM PRAVEEN KUMAR	
6	219Y1A05D8	PEDDETI PRANITHA (W)	
7	219Y1A05D9	PENUBADI LAKSHMI NARAYANAMMA (W)	
8	219Y1A05E0	PETLU RECHAL JYOTHI (W)	
9	219Y1A05E1	PONNA SIRISHA (W)	
10	219Y1A05E2	PUTHA YASWANTH REDDY	
11	219Y1A05E3	RAJOLI JASWITHA (W)	
12	219Y1A05E4	RANGAPURAM ABHINASH	
13	219Y1A05E5	RAYAPATI CHANDINI (W)	
14	219Y1A05E6	RENATI UDAYA BHASKAR REDDY	
15	219Y1A05E7	SAMALA VENKATA RUPA (W)	
16	219Y1A05E8	SANA SREE VATSAVA REDDY	
17	219Y1A05E9	SANGATI SAI DIVYA (W)	
18	219Y1A05F0	SHAIK CHAND BASHA	
19	219Y1A05F1	SHAIK FARIDBHAIGARI SHAHEEL AMEEN	
20	219Y1A05F2	SHAIK JASMEEN (W)	
21	219Y1A05F3	SHAIK KHADAR BASHA	
22	219Y1A05F4	SHAIK MAHABOOB BASHA	
23	219Y1A05F5	SHAIK MOHAMMAD SULTAN	
24	219Y1A05F6	SHAIK MOHAMMED ABRAR	
25	219Y1A05F7	SHAIK MOHAMMED YOUNUS	
26	219Y1A05F8	SHAIK MUHAMMAD FAIZAN	
27	219Y1A05F9	SHAIK NOOR MAHAMMAD SAMEEHA (W)	
28	219Y1A05G0	SHAIK NOOR MAHAMMAD	
29	219Y1A05G1	SHAIK PEDDAPULI SUMIYA (W)	
30	219Y1A05G2	SHAIK ZAMEER UR RAHIMAN	
31	219Y1A05G3	SINGAM GNANESWAR REDDY	
32	219Y1A05G4	SIRIVELLA PAVANI (W)	
33	219Y1A05G5	SOMALA ABHINAY KUMAR REDDY	
34	219Y1A05G6	SOMALA MANI SAI REDDY	
35	219Y1A05G7	SOMALA SHASHIKALA(W)	

S. NO	Roll No.	Name of the student	17-01-2022
36	219Y1A05G8	SOORABOINA JAGADEESH	
37	219Y1A05G9	SUNKESULA ANWAR BASHA	
38	219Y1A05H0	SURABHI SEKHAR	
39	219Y1A05H1	SYAMANABOYINA HARIPRASAD	
40	219Y1A05H2	SYED SHANAWAZ ALI	
41	219Y1A05H3	TAMATAM JANARDHAN REDDY	
42	219Y1A05H4	TAPPETA SAILAJA (W)	
43	219Y1A05H5	TERAMREDDY PRIYA (W)	
44	219Y1A05H6	THEETLA KEERTI REDDY (W)	
45	219Y1A05H7	THELLAVULA DEVENDRA	
46	219Y1A05H8	UPPARA KARTHEEK	
47	219Y1A05H9	VADDE DRAKSHAYINI (W)	
48	219Y1A05I0	VADEMANI MANASA (W)	
49	219Y1A05I1	VAKACHARLA ALEKYA (W)	
50	219Y1A05I2	VANKARA MANASA (W)	
51	219Y1A05I3	VARA PRADEEP REDDY	
52	219Y1A05I4	VARIKUTI SREELAKSHMI (W)	
53	219Y1A05I5	VUSUVANDLA RAJESWARI (W)	
54	219Y1A05I6	VEERAMREDDY CHARAN KUMAR REDDY	
55	219Y1A05I7	VELPULA RAVI KUMAR	
56	219Y1A05I8	VEMANA POOJITHA (W)	
57	219Y1A05I9	YALLALA CHANDRIKA (W)	
58	219Y1A05J0	YAMBADI VENKATESH	
59	219Y1A05J1	YANAMANDALA DINESH KUMAR	
60	219Y1A05J2	YANDRAPALLI SNEHALATHA (W)	
61	219Y1A05J3	YANGALA SUMALATHA(W)	
62	219Y1A05J4	YARVA REETHIKA (W)	
63	219Y1A05J5	YEDIRINDLA SAI SANDEEP REDDY	
64	219Y1A05J6	YELLAMAKURU RAJAKUMAR REDDY	
65	219Y1A05J7	YERRABALLI RAVITEJA	


Dr. I. SREEVANI M.Sc., Ph.D.
 Head of Humanities & Sciences
 K.S.R.M. College of Engineering
 KADAPA - 516 005

Certificate Course
On
Sustainable Engineering

Coordinator: Dr.B.Prashanti

Date of Event: 18/10/2021 to 3/11/2021

Organizing Department: Humanities & Sciences



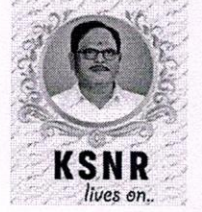
K.S.R.M. COLLEGE OF ENGINEERING

(UGC-AUTONOMOUS)

Kadapa, Andhra Pradesh, India- 516 003

Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu.

An ISO 14001:2004 & 9001: 2015 Certified Institution



Lr./KSRMCE/ H&S/Sustainable Engineering/Certification Course/2021

Date: 14.10.2021

To
The Principal,
K.S.R.M.College of Engineering
Kadapa.

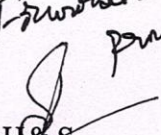
From
Dr.B.Prashanti,
Assistant Professor,
H&S Department
K.S.R.M.College of Engineering
Kadapa.

Respected Sir,

Sub: KSRMCE-Permission to conduct Certification Course on Sustainable Engineering - H&S Department- Requested - Reg.

It is being brought to your kind notice that, With reference to the cited, the H&S Department is planning to organise Certification Course on Sustainable Engineering for B.Tech Students from 18th October to 3rd November 2021. In this regard I kindly request you Sir to grant the permission for organizing Certification Course in online mode. This is submitted for your kind perusal.

Thanking you Sir,

Forwarded to Principal

HOD H&S

Yours Faithfully,
B. Prashanti
Dr .B. Prashanti,
Assistant Professor,
H&S Department
K.S.R.M.College of Engineering
(Autonomous)

Permitted
V. S. S. Murthy



K.S.R.M. COLLEGE OF ENGINEERING

(UGC-AUTONOMOUS)

Kadapa, Andhra Pradesh, India- 516 003

Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu.

An ISO 14001:2004 & 9001: 2015 Certified Institution



Cr./KSRMCE/H&S Dept/Sustainable Engineering /Certification Course /2021

Date:14-10-2021

Circular

All B.Tech students are hereby informed that Humanities and Sciences department is going to organize a certification course on Sustainable engineering for B.Tech students from 18th October 2021 to 1st November 2021. So interested students may register their names with Sustainable engineering Certification Course Coordinator Dr.B.Prashanti, Assistant professor in H&S department on or before 17th October 2021.


HOD H&S

Dr. I. SREEVANI M.Sc.,Ph.D.
Head of Humanities & Sciences
K.S.R.M. College of Engineering
KADAPA - 516 005

cc to:

The Director for information

All Deans/HODs

<https://forms.gle/LCPkG2xfPnn3LFZMA>

SUSTAINABLE ENGINEERING - 2 Certification course
KSRM COLLEGE OF ENGINEERING (Autonomous),Kadapa
Department of Humanities & Sciences

prashanthi@ksrmce.ac.in [Switch account](#)

Your email will be recorded when you submit this form

* Required

Name of the Student *

Your answer

Gender *

Male

Female

Branch & Section *

Your answer

College mail *

Your answer

Semester *

Your answer

Mobile number *

Your answer

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K.S.R.M. COLLEGE OF ENGINEERING

(UGC-AUTONOMOUS)

Kadapa, Andhra Pradesh, India- 516 003

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Date: 08-11-2021

Name of the Event: SUSTAINABLE ENGINEERING Certificate course

Venue: ONLINE MODE (GOOGLECLASSROOM)

Registered students List

S. No	Name	Department	Contact No	Roll number
1	Peddamavireddygari chinnapeddireddy	Eee	6301677033	199y1a0238
2	Y Vikeshkumarreddy	CSE C	6300941907	199y1a05i3
3	K.CHAITANYA	CIVIL-A SECTION	8639529154	199Y1A0118
4	HACHHULUKATTE FAHEEM	Civil-a	9347909073	199y1a0115
5	A.Thulasi Deepa	Mechanical	9100954809	209y1a0301
6	Yarravagari Mohana Sree	ME	8978838031	209Y1A0367
7	S. Pavan kumar reddy	Civil-A/s	9515414427	199y1a0145
8	S.Mahammad	Civil-A	7780742086	199Y1A0146
9	MUDE CHANDU KUMAR NAIDU	Cse B section	9347793255	199Y1A05A8
10	K. ANUSHA	Ece and A/section	8688691840	199Y1A0457
11	A.LAVANYA	ECE AND A/S	9390957255	199Y1A0404
12	GADDA UPENDRA	ECE -A	8978363986	199Y1A0440
13	Kudumalavemakrishna	Cse B section	6302640320	199Y1A0587
14	Konda prathyusha	ECE B	8688857720	199Y1A0472
15	V. Anusha	Civil and B	9398337457	209y1a0191
16	Urlagaddala poojitha	Civil & B sec	8977177270	209y1a0189
17	S.RAHAMATHULLAH	CSE C	8688509507	199Y1A05F2
18	c.sai prakash reddy a	Eec	08688144173	199Y1AO425
19	Sudheer reddy	Ece/B	7036134057	199y1A04d5
20	Nageswari pennaiahgari	Cse/c-sec	9390458137	199Y1A05D1
21	Jampala Anjali	ECE-A/S	9347816173	199Y1A0455
22	MORAM YAGNA PRIYA	CIVIL A/S	7330651925	199y1a0127
23	Challa Stephen Kumar	ECE A/S	7286991827	199Y1A0419
24	Muchukotla maneswara	Cse B	7569995482	199Y1A05A7
25	Mothukuri.Kirankumar	CSE B	8639421764	199Y1A05A6
26	C. Jashwanth varma	A	9963187028	199Y1A0417



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27	MUDDALAPURAM SAI SURYA	Electronics and Communication engineering / B	+917799434737	189Y1A0488
28	Pullerpu obulesu	E C E B/s	9381155228	189y1a04b5
29	Dudekula Karishma	EEE	9391512656	199Y1A0211
30	SHAIK RAIESA	CSE -C	9515780899	199Y1A05F3
31	DIRASANTHA CHENANKESHAVA	CIVIL-A	6303484138	199Y1A0109
32	Shaik Mohammed Amaan	CSE C	7288838904	209Y1A05F0
33	Phatan Arfathulla Khan	CE and A/S	9618566075	199Y1A0136
34	ERLA VENKATA RAMANA	ECE C	7680925972	209Y5A0403
35	GOLLA VIJAY KUMAR YADAV	ECE C	9014061609	209Y5A0405
36	LAKKIREDDY NIHARIKA (W)	ECE C	7065324076	209Y5A0410
37	MUNAGAPATI VENKATA HARIKA (W)	ECE C	9121446119	209Y5A0413
38	PALLA VENKATA LAKSHMI (W)	ECE C	7702524513	209Y5A0416
39	SHULAM BALA SIDDARTHA	ECE C	6309380165	209Y5A0418
40	TELLADARLA MANASA (W)	ECE C	7093492475	209Y5A0419
41	ALURU LALITHA (W)	CSE A	8297652783	199Y1A0504
42	AVULA LIKHITHA (W)	CSE A	8688564013	199Y1A0510

B. Prashanthi
Co-ordinator


HOD/H&S
Dr. I. SREEVANI M.Sc., Ph.D.
Head of Humanities & Sciences
K.S.R.M. College of Engineering
KADAPA - 516 005

Course Title	SUSTAINABLE ENGINEERING	B. Tech : Open to all branches
Course Objectives:		
<ul style="list-style-type: none"> -To develop an increased awareness among students on issues in areas of sustainability - To make students understand the role of engineering and technology within sustainable development - To give students some familiarity with the methods and tools used for sustainable product-service system development - To establish in students an understanding of the role and impact of engineering activities and engineering decisions on environmental, societal, and economic well-being 		
Course Outcomes: On successful completion of this course, the students will be able to		
CO 1	Students have an increased awareness on issues in the area of sustainability	
CO 2	Students get an understanding the role of engineering and technology within sustainable development	
CO 3	Students gain familiarity with the methods and tools employed for sustainable product-service system development	
CO 4	Students gain an understanding of the role and impact of engineering activities and engineering decisions on the environment, society, and economics	

UNIT-I: Sustainability: Introduction – Concepts – Need to promote sustainability – Three pillars of sustainability – Nexus between technology and sustainable development – Challenges for sustainable development -Benefits of sustainable living.

UNIT-II: The Environment and Key Life Styles: Food – Housing – Mobility – Consumer goods – Leisure time. Factors influencing consumption and lifestyles – Determinants – Driving factors – Motivating factors.

UNIT-III: Natural Resources and their Pollution: Air pollution – effects of air pollution – Clean development mechanism – Water pollution – Sustainable waste water treatment – Solid waste – sources – Impacts of solid waste – Zero waste concepts – 3R concept – Global

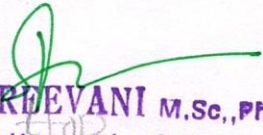
environmental issues – Resource degradation - Climate change – Global warming - Ozone layer depletion. Carbon credits and carbon trading – Carbon foot prints.

UNIT-IV: Life Cycle Assessment (LCA): Introduction – LCA & Sustainability – LCA and Environmental system – LCA and Water, Food & Energy – Environmental risk assessment – Environmental data collection and LCA methods – ISO 14040 – Key points of good LCA with examples.

UNIT-V: Design for Sustainability: Green engineering – Sustainable engineering principles – Green sustainable materials - Sustainable urbanization – Industrial ecology – Industrial symbiosis – Case Studies.

Reference Books:

- Alleng, D.T. and Shonnard, D.R., *Sustainability Engineering: Concepts, Design and Case studies*, Prentice Hall
- Bradley. A.S., Adebayo, A.O., Maria, P. *Engineering Applications in Sustainable Design and Development*, Cengage learning.
- Ni Bin Chang, *Systems Analysis for Sustainable Engineering: Theory and Applications*, Tata McGraw-Hill Publications.
- Purohit, S.S., *Green Technology: An Approach for Sustainable Environment*, Agrobios Publications.


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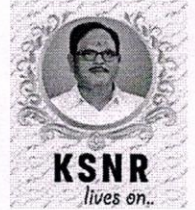
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Department of Humanities & Sciences

Sustainable engineering Schedule

Date	Timing	Course Instructor	Topic to be covered
18-10-2021	4-6 pm	Dr.B.Prashanti	Need to promote sustainability – Three pillars of sustainability – Nexus between technology and sustainable development
19-10-2021	4-6 pm	Dr.B.Prashanti	Challenges for sustainable development -Benefits of sustainable living.
20-10-2021	4-6 pm	Smt M.Mary Jasmine	Food – Housing – Mobility – Consumer goods – Leisure time.
21-10-2021	4-6 pm	Smt M.Mary Jasmine	Factors influencing consumption and lifestyles – Determinants – Driving factors – Motivating factors.
22-10-2021	4-6 pm	Dr.B.Prashanti	Air pollution – effects of air pollution
23-10-2021	4-6 pm	Dr.B.Prashanti	Clean development mechanism
24-10-2021	4-6 pm	Dr.B.Prashanti	3R concept – Water pollution – Sustainable waste water treatment
25-10-2021	4-6 pm	Dr.B.Prashanti	Solid waste – sources – Impacts of solid waste – Zero waste concepts
26-10-2021	4-6 pm	Dr.B.Prashanti	Global environmental issues – Resource degradation - Climate change
27-10-2021	4-6 pm	Dr.B.Prashanti	Global warming - Ozone layer depletion.
28-10-2021	4-6 pm	Dr.B.Prashanti	Carbon credits and carbon trading
29-10-2021	4-6 pm	Dr.B.Prashanti	Carbon foot prints



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			LCA & Sustainability
30-10-2021	4-6 pm	Dr.B.Prashanti	LCA and Environmental system – LCA and Water, Food & Energy – Environmental risk assessment
31-10-2021	4-6 pm	Dr.B.Prashanti	Environmental data collection and LCA methods – ISO 14040 – Key points of good LCA with examples.
1-11-2021	4-6 pm	Smt.M.Mary Jasmine	Green engineering – Sustainable engineering principles
2-11-2021	4-6 pm	Smt.M.Mary Jasmine	Green sustainable materials - Sustainable urbanization
3-11-2021	4-6 pm	Smt.M.Mary Jasmine	Industrial ecosystem – Industrial symbiosis – Case Studies.

B. Prashanti
Co-ordinator

Course Instructor 1: *B. Prashanti*

Course Instructor 2: *M. Mary Jasmine*

I. Sreevani
HOD H&S

Dr. I. SREEVANI M.Sc., Ph.D.
Head of Humanities & Sciences
KSRM College of Engineering
KADAPA, AP 516005

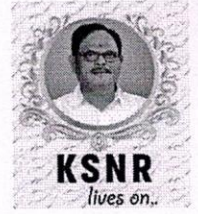


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Date: 08-11-2021

Name of the Event: SUSTAINABLE ENGINEERING Certificate course

Venue : ONLINE MODE (GOOGLECLASSROOM)

List of Participants

S. No	Name	Department	Contact No	Roll number
1	Peddamavireddygari chinnapeddiredy	Eee	6301677033	199y1a0238
2	Y Vikeshkumarreddy	CSE C	6300941907	199y1a05i3
3	K.CHAITANYA	CIVIL-A SECTION	8639529154	199Y1A0118
4	HACHHULUKATTE FAHEEM	Civil-a	9347909073	199y1a0115
5	A.Thulasi Deepa	Mechanical	9100954809	209y1a0301
6	Yarravagari Mohana Sree	ME	8978838031	209Y1A0367
7	S. Pavan kumar reddy	Civil-A/s	9515414427	199y1a0145
8	S.Mahammad	Civil-A	7780742086	199Y1A0146
9	MUDE CHANDU KUMAR NAIDU	Cse B section	9347793255	199Y1A05A8
10	K. ANUSHA	Ece and A/section	8688691840	199Y1A0457
11	A.LAVANYA	ECE AND A/S	9390957255	199Y1A0404
12	GADDA UPENDRA	ECE -A	8978363986	199Y1A0440
13	Kudumalavemakrishna	Cse B section	6302640320	199Y1A0587
14	Konda prathyusha	ECE_B	8688857720	199Y1A0472
15	V. Anusha	Civil and B	9398337457	209y1a0191
16	Urlagaddala poojitha	Civil & B sec	8977177270	209y1a0189
17	S.RAHAMATHULLAH	CSE C	8688509507	199Y1A05F2
18	c.sai prakash reddy a	Eec	08688144173	199Y1A0425
19	Sudheer reddy	Ece/B	7036134057	199y1A04d5
20	Nageswari pennaiahgari	Cse/c-sec	9390458137	199Y1A05D1
21	Jampala Anjali	ECE-A/S	9347816173	199Y1A0455
22	MORAM YAGNA PRIYA	CIVIL A/S	7330651925	199y1a0127
23	Challa Stephen Kumar	ECE A/S	7286991827	199Y1A0419
24	Muchukotla maneswara	Cse B	7569995482	199Y1A05A7
25	Mothukuri.Kirankumar	CSE B	8639421764	199Y1A05A6

26	C. Jashwanth varma	A	9963187028	199Y1A0417
27	MUDDALAPURAM SAI SURYA	Electronics and Communication engineering / B	+917799434737	189Y1A0488
28	Pullerpu obulesu	E C E B/s	9381155228	189y1a04b5
29	Dudekula Karishma	EEE	9391512656	199Y1A0211
30	SHAIK RAIESA	CSE -C	9515780899	199Y1A05F3
31	DIRASANTHA CHENANKESHAHA	CIVIL-A	6303484138	199Y1A0109
32	Shaik Mohammed Amaan	CSE C	7288838904	209Y1A05F0
33	Phatan Arfathulla Khan	CE and A/S	9618566075	199Y1A0136

B. Prashant
Co-ordinator

HOD H&S

Dr. I. SREEVANI M.Sc., Ph.D.
Head of Humanities & Sciences
KSRM College of Engineering
KADAPA 516005

K.S.R.M College of Engineering (Autonomous), Kadapa
Department of Humanities & Sciences

Certificate Course on Sustainable Engineering (Phase -2)

Attendance Sheet

S.No	Name of the student	Roll No	Branch	18/10/2021	20/10/2021	21/10/2021	22/10/2021	23/10/2021	25/10/2021	26/10/2021	27/10/2021	28/10/2021	29/10/2021	30/10/2021	31/10/2021	1/11/2021	2/11/2021	3/11/2021
1	P. Srinivas Reddy chinnapeddreddy	199y1a0238	EEE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
2	Y Vikeskumarreddy	199y1a05i3	CSE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
3	K. CHAITANYA	199Y1A0118	CIVIL	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
4	PACHHOLUKATTE FAHEEM	199y1a0115	CIVIL	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
5	A.Thulasi Deepa	209y1a0301	ME	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
6	Yarravagari Mohana Sree	209Y1A0367	ME	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
7	S. Pavan kumar reddy	199y1a0145	CIVIL	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
8	S. Mahammad	199Y1A0146	CIVIL	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
9	MODE CHANDU KUMAR NAIDU	199Y1A05A8	CSE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
10	K. ANUSHA	199Y1A0457	ECE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
11	A.LAVANYA	199Y1A0404	ECE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
12	GADDA UPENDRA	199Y1A0440	ECE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
13	Kudumalavemakrishna	199Y1A0587	CSE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
14	Konda prathyusha	199Y1A0472	ECE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
15	V. Anusha	209y1a0191	CIVIL	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
16	Urlagaddala poojitha	209y1a0189	CIVIL	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
17	S.RAHAMATHULLAH	199Y1A05F2	CSE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
18	c.sai prakash reddy a	199Y1A0425	ECE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
19	Sudheer reddy	199y1A04d5	ECE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
20	Nageswari pannelahgari	199Y1A05D1	CSE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
21	Jampala Anjali	199Y1A0455	ECE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
22	MORAM YAGNA PRIYA	199y1a0127	CIVIL	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
23	Challe Stephen Kumar	199Y1A0419	ECE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
24	Muchukolla maneswara	199Y1A05A7	CSE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
25	Mothukuri.Kirankumar	199Y1A05A6	CSE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
26	C. Jashwanth varma	199Y1A0417	ECE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
27	MUDDALAPURAM SAI SURYA	189Y1A0488	ECE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
28	Pullerpu obulesu	189y1a04b5	ECE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
29	Dudekula Karishma	199Y1A0211	EEE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
30	SHAIK RAIESA	199Y1A05F3	CSE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
31	CHENANKESHAVA	199Y1A0109	CIVIL	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
32	Shaik Mohammed Amaan	209Y1A05F0	CSE	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P
33	Phatan Arfathulla Khan	199Y1A0136	CIVIL	P	P	P	P	P	P	P	P	P	P	P	P	P	P	P

B. Prabhakar
Coordinator

[Signature]
HOD

Dr. I. SREEVANI M.Sc., Ph.D.
Head of Humanities & Sciences
K.S.R.M College of Engineering
KADAPA - 508005



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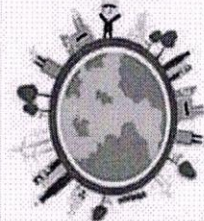
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Department of H&S

Certificate course on Sustainable Engineering



Date

18 th October to 3rd November , 2021

Eligibility: All branches of B.Tech students

Venue: Online Mode

Course Co-ordinator :

Dr.B.Prashanti

Course Instructors:

Dr.B.Prashanti

M .Mary jasmine

Dr. Isreerani
(MOO & Convener)

Dr. V.S.S. Murthy
(Principal)

Prof. A. Mohan
(Director)

Dr. Kandala Chandra ohal Reddy
(Managing Director)

Smt. K. Rajeswari
(Correspondent Secretary, Treasurer)

Sri K. Madan Mohan Reddy
(Vice-chairman)

Sri K. Raja Mohan Reddy
(Chairman)



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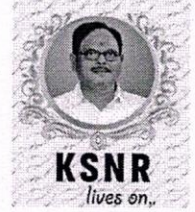
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ACTIVITY REPORT

Certification Course

On

“Sustainable Engineering”

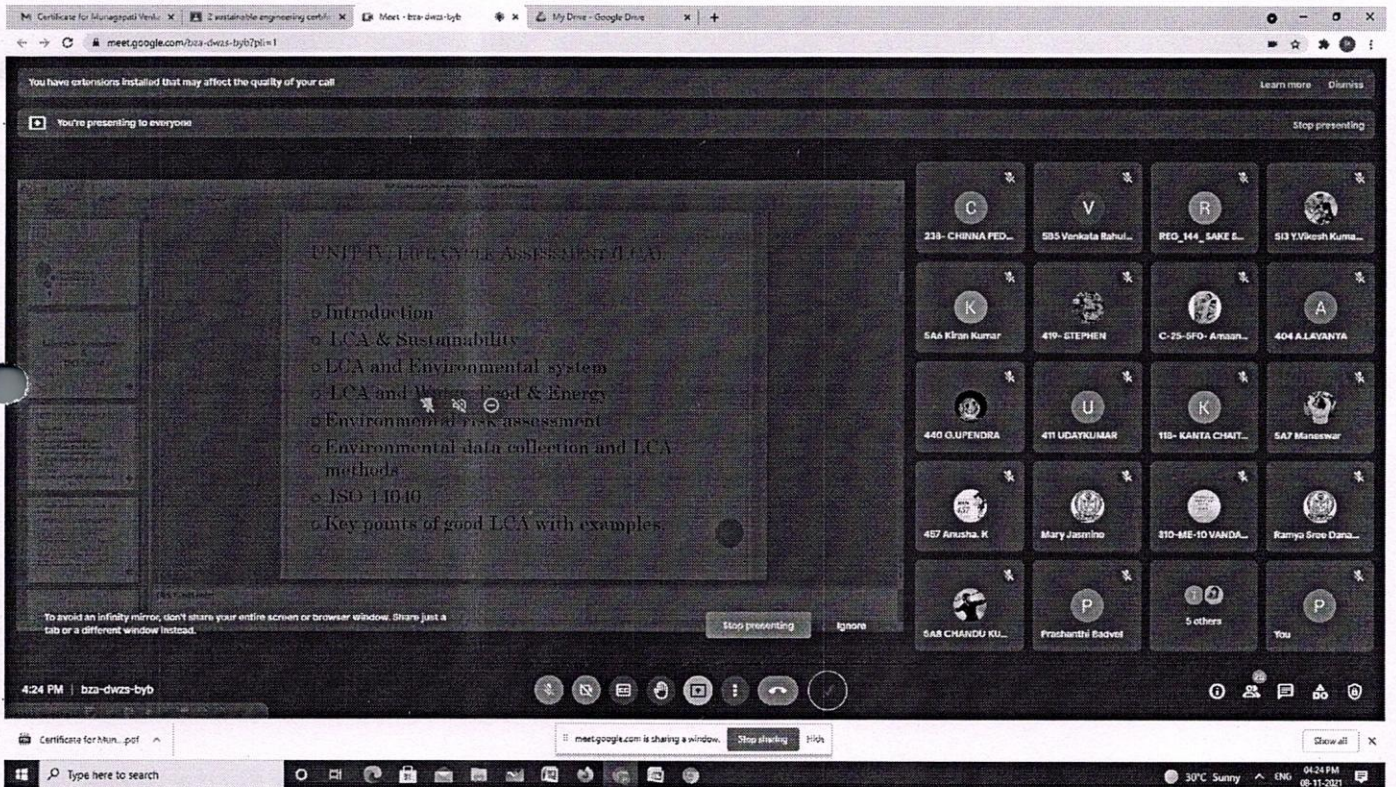
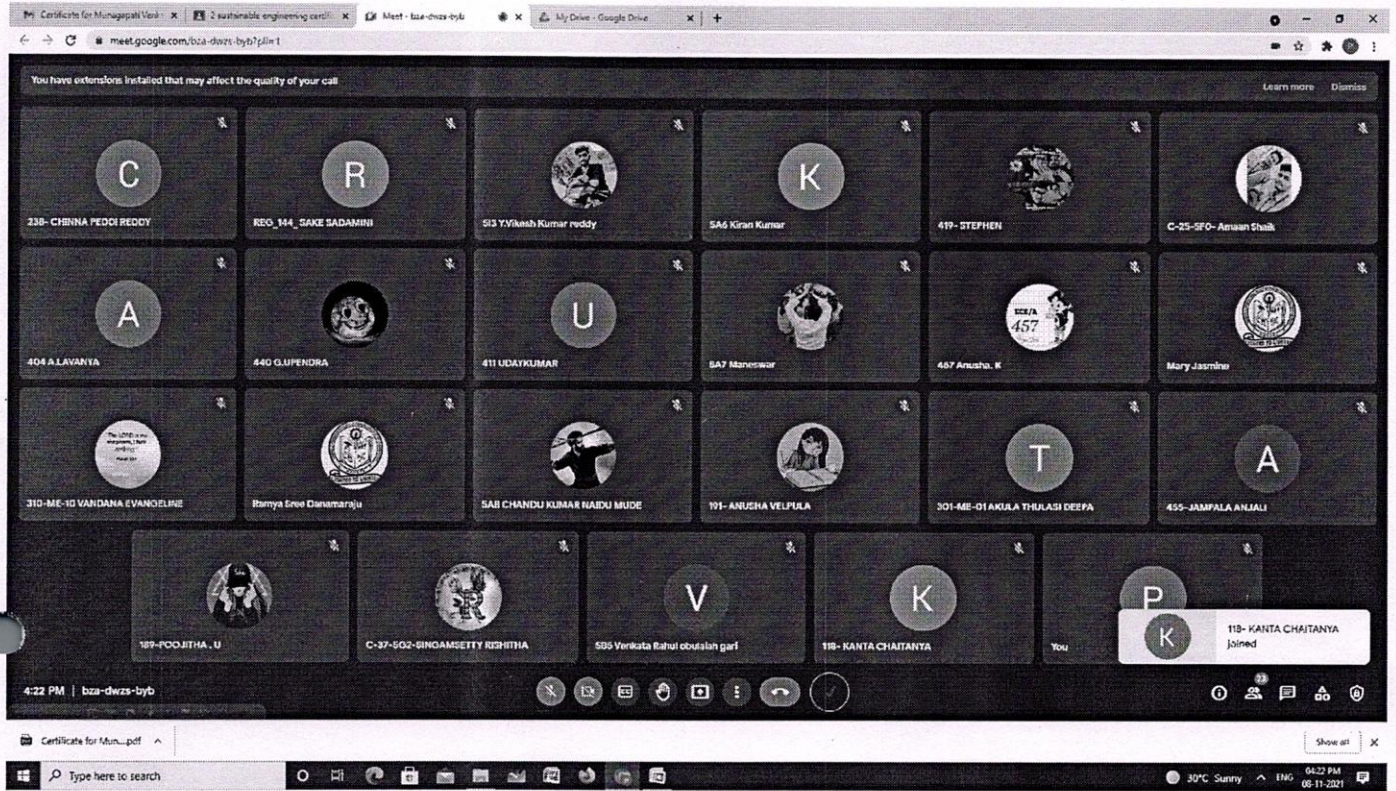
18th October to 3rd November ,2021

- Target Group** : **B. Tech Students**
- Details of Participants** : **33 Students**
- Co-ordinator** : **Dr.B.Prashanti**
Asst. Prof, Dept. of H&S
- Organizing Department** : **Department of Humanities & Sciences**
- Venue** : **Online mode (Google meet)**

<https://classroom.google.com/c/NDA2MDA5OTYyMTQz?cjc=bhwlems>
<https://meet.google.com/bza-dwzs-byb>


Description : Certification course on “Sustainable Engineering ” was organized by Dept. of H&S from **18th October to 3rd November , 2021** in online mode. The Course instructors are Dr. B. Prashanti & Smt.M.Mary jasmine. The main aim of the course is to create awareness among students about this course of Sustainability practices applied in various fields like Engineering and Industrial applications to conserve environment. Course is completed and certificates are provided for the participants.

Photo



B. Prashanti
Dr. .B. Prashanti
 Coordinator

I. Sreevani
Dr. I. Sreevani
 HOD H&S
 Head of Humanities & Sciences
 K.S.R.M. College of Engineering
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Certificate of Appreciation

This is to certify that Mr./Ms./Smt. **Peddamavireddygari chinnapeddireddy** has successfully completed the certificate course on **Sustainable Engineering** organised by **Department of Humanities & Sciences,K.S.R.M.C.E** from 18th October to 3rd November , 2021.

Sreevani

Dr.I.Sreevani , HOD

V. S. S. M M/5

Principal, K.S.R.M.C.E



**K.S.R.M COLLEGE OF ENGINEERING(Autonomous),
Andhra pradesh,Kadapa-516003
Approved by AICTE,New Delhi,JNTUA**



Certificate of Appreciation

This is to certify that Mr./Ms./Smt. **A.LAVANYA** has successfully completed the certificate course on **Sustainable Engineering** organised by **Department of Humanities & Sciences,K.S.R.M.C.E** from 18th October to 3rd November , 2021.

Sreevani

Dr.I.Sreevani , HOD

V. S. S. MW/15

Principal, K.S.R.M.C.E



**K.S.R.M COLLEGE OF ENGINEERING(Autonomous),
Andhra pradesh,Kadapa-516003
Approved by AICTE,New Delhi,JNTUA**



Certificate of Appreciation

This is to certify that Mr./Ms./Smt. **A.Thulasi Deepa** has successfully completed the certificate course on **Sustainable Engineering** organised by **Department of Humanities & Sciences,K.S.R.M.C.E** from 18th October to 3rd November , 2021.

Sreevani

Dr.I.Sreevani , HOD

V. S. S. MW/15

Principal, K.S.R.M.C.E

Feedback Form & Certification details for Certification course on Sustainable engineering (October 18 to 3 November 2021)

K.S.R.M COLLEGE OF ENGINEERING (Autonomous) , Kadapa , Andhra Pradesh ,India-516003
Approved by AICTE , New Delhi & Affiliated to JNTUA , Anantapuramu

We appreciate your help in evaluating the session on certification course on the parameters mentioned below using a scale from 1 (Low) to 5 (High). You will receive the certificate based on your feedback.

Your email will be recorded when you submit this form

* Required

Full name *

Your answer

Branch and section *

Your answer

Roll number *

Your answer

Contact Number *

Your answer

Email id *

Your answer

1. The content of the Session was useful & interesting *

1

- 2
- 3
- 4
- 5

2. The Session was structured & well organized *

- 1
- 2
- 3
- 4
- 5

3. Was your expectation & objective of the session met *

- 1
- 2
- 3
- 4
- 5

4. Did the session elicit your active participation & engagement ? *

- 1
- 2
- 3
- 4
- 5

5. Overall rating for speakers *

- 1
- 2
- 3
- 4
- 5
- 6

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DEPARTMENT OF HUMANITIES AND SCIENCES

SUSTAINABLE ENGINEERING (PHASE-2) CERTIFICATE COURSE FEEDBACK FORM

Timestamp	Full name	Branch and section	Roll number	Contact Number	1	2	3	4	5
11-8-2021 21:36:53	P chinnapeddireddy	Eee	199y1a0238	6301677033	4	4	5	5	6
11-8-2021 21:37:09	Y Vikeshkumarreddy	CSE C	199y1a05i3	6300941907	5	5	5	5	6
11-8-2021 21:42:02	K.CHAITANYA	CIVIL-A/S	199Y1A0118	8639529154	4	4	4	5	4
11-8-2021 21:46:08	HACHHULUKATTE FAHEEM	Civil-a	199y1a0115	9347909073	5	5	5	5	6
11-9-2021 12:07:43	A.Thulasi Deepa	Mechanical	209y1a0301	9100954809	5	5	5	5	6
11-9-2021 12:08:34	Yarravagari Mohana Sree	ME	209Y1A0367	8978838031	5	5	5	5	6
11-9-2021 12:45:36	S. Pavan kumar reddy	Civil-A/s	199y1a0145	9515414427	5	3	3	3	5
11-9-2021 12:47:30	S.Mahammad	Civil-A	199Y1A0146	7780742086	5	5	5	5	6
11-9-2021 15:55:55	MUDE CHANDU KUMAR NAIDU	Cse B section	199Y1A05A8	9347793255	5	5	5	4	5
11-9-2021 16:03:06	K. ANUSHA	ECE A/s	199Y1A0457	8688691840	5	3	4	3	5
11-9-2021 16:08:34	A.LAVANYA	ECE A/S	199Y1A0404	9390957255	5	4	3	2	5
11-9-2021 16:11:07	GADDA UPENDRA	ECE -A	199Y1A0440	8978363986	5	4	4	4	5
11-9-2021 16:46:58	Kudumalavemakrishna	Cse B/S	199Y1A0587	6302640320	4	4	5	5	6
11-9-2021 17:08:02	Konda prathyusha	ECE_B	199Y1A0472	8688857720	4	4	3	4	5
11-9-2021 17:10:15	V. Anusha	Civil and B	209y1a0191	9398337457	5	5	4	4	6
11-9-2021 17:12:46	Urlagaddala poojitha	Civil & B sec	209y1a0189	8977177270	5	5	5	5	6
11-9-2021 17:13:42	S.RAHAMATHULLAH	CSE C	199Y1A05F2	8688509507	5	5	5	5	5
11-9-2021 17:29:22	c.sai prakash reddy a	Eec	199Y1A0425	08688144173	5	5	5	5	6
11-9-2021 17:50:56	Sudheer reddy	Ece/B	199y1A04d5	7036134057	4	4	4	4	5
11-9-2021 17:52:14	Nageswari pennaiahgari	Cse/c-sec	199Y1A05D1	9390458137	4	3	5	3	5
11-9-2021 18:06:54	Jampala Anjali	ECE-A/S	199Y1A0455	9347816173	4	4	5	3	3
11-9-2021 18:14:36	MORAM YAGNA PRIYA	CIVIL A/S	199y1a0127	7330651925	5	4	4	4	5
11-9-2021 18:18:26	Challa Stephen Kumar	ECE A/S	199Y1A0419	7286991827	4	4	4	5	6
11-9-2021 19:19:45	Muchukotla maneswara	Cse B	199Y1A05A7	7569995482	5	5	1	3	6
11-9-2021 19:19:53	Mothukuri.Kirankumar	CSE B	199Y1A05A6	8639421764	3	4	3	3	4
11-9-2021 22:10:16	C. Jashwanth varma	A	199Y1A0417	9963187028	1	1	1	1	1
11-10-2021 11:07:03	MUDDALAPURAM SAI SURYA	ECE/ B	189Y1A0488	+9177994347	5	5	5	5	6
11-10-2021 11:09:23	Pullerpu obulesu	E C E B/s	189y1a04b5	9381155228	5	5	4	5	6
11-11-2021 17:33:49	Dudekula Karishma	EEE	199Y1A0211	9391512656	1	2	1	1	4
11-11-2021 18:50:06	SHAIK RAIESA	CSE -C	199Y1A05F3	9515780899	4	4	4	4	5
11-12-2021 9:00:43	DIRASANTHA CHENANKESHA	CIVIL-A	199Y1A0109	6303484138	5	5	5	5	6
11-17-2021 18:40:50	Shaik Mohammed Amaan	CSE C	209Y1A05F0	7288838904	5	5	5	5	6
11-23-2021 20:37:39	Phatan Arfathulla Khan	CE A/S	199Y1A0136	9618566075	5	5	5	5	6

1. The content of the Session was useful & interesting
2. The Session was structured & well organized
3. Was your expectation & objective of the session met
4. Did the session elicit your active participation & engagement ?
5. Overall rate of speakers

B. Prashanti
Co-ordinator.


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Sustainable Engineering

Certification course
Kandula Sreenivasa Reddy Memorial College Of
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Dr. B. Prashanti
Assistant professor

CERTIFICATE COURSE ON SUSTAINABLE ENGINEERING

Course Objectives:

- To have increased awareness among engineering students on sustainability
- To know the environment & key lifestyles and their influencing factors
- To understand the various types of environmental pollutions and their sustainable solutions
- To have a better perception of life cycle assessment and environmental risk assessment.
- To develop sustainable practices by utilizing the engineering knowledge and principles
- To become critical and proactive thinkers and, with this, successful engineers in the field
- UNIT-I: Sustainability:** Introduction – Concepts – Need to promote sustainability – Three pillars of sustainability – Nexus between technology and sustainable development – Challenges for sustainable development – Benefits of sustainable living.
- UNIT-II: The Environment and Key Life Styles:** Food – Housing – Mobility – Consumer goods – Leisure time. Factors influencing consumption and lifestyles – Determinants – Driving factors – Motivating factors.

- UNIT-III: Natural Resources and their Pollution:** Air pollution – effects of air pollution – Clean development mechanism – Water pollution – Sustainable waste water treatment – Solid waste – sources – Impacts of solid waste – Zero waste concepts – 3R concept – Global environmental issues – Resource degradation – Climate change – Global warming – Ozone layer depletion. Carbon credits and carbon trading – Carbon foot prints.
- UNIT-IV: Life Cycle Assessment (LCA):** Introduction – LCA & Sustainability – LCA and Environmental system – LCA and Water, Food & Energy – Environmental risk assessment – Environmental data collection and LCA methods – ISO 14040 – Key points of good LCA with examples.
- UNIT-V: Design for Sustainability:** Green engineering – Sustainable engineering principles – Green sustainable materials – Sustainable urbanization – Industrial ecology – Industrial symbiosis – Case Studies.

Reference Books:

- Alleng, D.T. and Shonnard, D.R., *Sustainability Engineering: Concepts, Design and Case studies*, Prentice Hall
- Bradley, A.S., Adebayo, A.O., Maria, P. *Engineering Applications in Sustainable Design and Development*, Cengage learning.
- Ni Bin Chang, *Systems Analysis for Sustainable Engineering: Theory and Applications*, Tata McGraw-Hill Publications.
- Purohit, S.S., *Green Technology: An Approach for Sustainable Environment*, Agrobios Publications.

Introduction

- Humans make hundreds of thousands of decisions during the course of their lives.
- For the lucky among us, those decisions will vary wildly.
- What food will I eat?
- what house will I live in?
- How will I get to work in the morning?
- What type of clothes will I wear?
- How will I spend my spare time?
- The list is endless.
- No matter how we choose to answer these questions, the lifestyles we end up living .
- In some cases, are forced to live – have a profound impact on our planet.
- Affecting everything from how our economies grow to the health of our environment.
- Our consumption habits are putting our resources levels at great risk.

Concepts on sustainability

- ▣ The amount of stuff we use in order to live has exploded in many parts of the world.
- ▣ Highlighted by the fact that the global extraction of materials has tripled over the past four decades,
- ▣ rising to an enormous 100 billion tonnes in 2020.
- ▣ If current trends continue, then this dramatic increase in the amount of material
- ▣ we consume will continue to rise as populations grow, the middle class expands, and incomes increase.

- ▣ 'Sustainable development
- ▣ fulfills the needs of the present without compromising the ability of the future generations to meet their own needs.'
- ▣ As people become richer and are able to afford more, they are more likely to want to have access to recreation and this means clean water and air, unpolluted land, natural ecosystems etc.
- ▣ Thus, jobs, or development, is a critical vehicle in eliminating environmental degradation.

Sustainable engineering

- ▣ Sustainable engineering is the process of using resources in a way that does not compromise the environment or deplete the materials for future generations.
- ▣ Sustainable engineering requires an interdisciplinary approach in all aspects of engineering and it should not be designated as a sole responsibility of environmental engineering.
- ▣ All engineering fields should incorporate sustainability into their practice in order to improve the quality of life for all.

- ▣ One way of measuring the socio-economic improvement of societies is the Millennium Development Goals.
- ▣ Through creating and maintaining the physical infrastructures that help eradicate extreme poverty and hunger, achieve universal primary education, reduce child mortality and improve maternal health,
- ▣ Engineers are demonstrating their social and environmental responsibility to sustainably develop societies.

- ▣ creation of the Sustainable Development Goals, engineers will continue to play a decisive role in their success.
- ▣ The necessity for environmentally-friendly technologies in the future will require the expertise of engineers.
- ▣ Therefore, the UNESCO Engineering Initiative (UEI) is working with partners to develop engineering curricula that incorporate sustainability as an overarching theme.

- ▣ Recently, the UEI in partnership with the Association of German Engineers, the German Commission for UNESCO and leading German educational facilities and companies,
- ▣ created the Quality Engineering for Sustainability initiative.
- ▣ This initiative aims to develop North-South-South partnerships by integrating sustainability topics into engineering education.

Need to promote Sustainability

- **Satāt Bharat – Sanātāt Bharat (Sustainable India)** India's climate action strategies call for clean and efficient energy systems, disaster resilient infrastructure, and planned eco-restoration.
- Acting on its nationally-determined contributions, India has electrified 100% of its villages.
- reduced 38 million tonnes of CO2 emissions annually through energy efficient appliances
- provided clean cooking fuel to 80 million poor households, and set a target to install 450GW of renewable energy and
- restore 26 million hectares of degraded land by 2030.
- Globally, India stands third in renewable power, fourth in wind power, and fifth in solar power.
- India launched the Coalition for Disaster Resilient Infrastructure and
- the International Solar Alliance to leverage global partnerships for climate action and disaster resilience.

- In the spirit of South-South Cooperation, for realizing the 2030 Agenda
- India supports developing countries through the USD 150 million India-UN Development Partnership Fund.
- In this spirit of regional and global partnerships, and the country's commitment to 'leave no one behind'
- India steps into the Decade of Action, drawing confidence from its experience in addressing challenges.
- Government of India will continue to work collaboratively with all domestic and global stakeholders to accelerate efforts for a sustainable planet for future generations.

Three Pillars of Sustainability

1. **Environment Pillar**
 - Sustainable development can only exist if conservation is embraced more fully than wasting resources or preservation of all resources
2. **Economy Pillar**
 - Efforts to set prices of commodities and goods based not only on supply and demand but also on costs to the environment.
3. **Society Pillar**
 - Modifying the wants of cultures in regards to shelter, food, and clothing to objects that are sustainable

Nexus between technology and Sustainable development

- <https://www.eli.org/international-programs/technologies-sustainable-development>
- Hardware, software, know-how, and other technologies are an essential tool for sustainable development. They can be instrumental in ensuring that people:
 - have access to clean water (through water purification, efficiency, delivery, and sanitation technologies);
 - have access to energy that is clean, affordable, and sustainable (e.g., through energy-efficient technologies and technologies that use alternative sources of energy);

Technology and Sustainable development

- live in a less toxic environment (e.g., by putting in place alternative agricultural and industrial technologies
- That reduce the quantity and toxicity of the raw materials and processes, as well as treatment techniques);
- live in a more stable environment by mitigating the effects of climate change
- (e.g., more energy-efficient processes and emissions control) and
- Adapting to climate change (e.g., using GIS to assist in land use planning); and
- Are able to more effectively and efficiently manage natural resources;
- Have effective environmental governance regimes (e.g., in monitoring compliance and enforcement,
- Providing public access to information, building capacity, and raising public awareness).

- One of greatest challenges that countries —
- especially developing countries — face in realizing sustainable development is
- obtaining and putting in place the necessary technologies.
- While access to technology depends to some extent on financial resources, it is not only a financial issue.
- In many instances, legal and institutional frameworks impede the development

- Import/export, transfer, and use of technologies for sustainable development.
- Quotas and tariffs can affect the ability to import technologies.
- Similarly, subsidies may promote the use of technologies that may waste energy, water, or other resources.
- Moreover, decision makers should consider cultural norms when selecting and putting in place technologies.

- seeks to promote the development, import/export, transfer, and use of technologies for sustainable development. We will:
- examine legal, institutional, and other barriers to the effective application of technologies;
- identify innovative approaches to promote technologies for sustainable development, drawing upon lessons
- learned from experiences to date (what works, in what contexts, why, how, ...); and

- understand the legal, socio-economic, and political factors
- that may affect the effectiveness of initiatives to obtain and implement particular technologies.
- work with local partners to identify challenges to the development, import, and
- use of technologies, and possible solutions to help put in place the necessary technologies.
- These collaborations will entail a combination of research, capacity building, and legal and technical assistance.

Challenges for Sustainable development

- Degrading Air Quality Index
- Rampant Environmental Degradation
- Loss of Biodiversity
- Urbanization in Himalayas
- Loss of Resilience in Ecosystems
- Lack of Waste Management
- Depletion of Resources (land ,air ,water ,forest , minerals etc)
- Growing Water scarcity

Benefits of Sustainable Living

- Save Money
- Reduce Energy consumption
- Generate your own power
- Cut back on water use
- Grow your own food
- Reuse, buy recycled products

UNIT II

▣ The Environment and Key Life Styles:

- ▣ Food
- ▣ Housing
- ▣ Mobility
- ▣ Consumer goods
- ▣ Leisure time
- ▣ Factors influencing consumption and lifestyles
- ▣ Determinants
- ▣ Driving factors
- ▣ Motivating factors.

Environment and key lifestyles

Sustainable lifestyle:

- “sustainable lifestyle” is a cluster of habits and patterns of behaviour embedded in a society .
- Facilitated by institutions, norms and infrastructures that frame individual choice
 - In order to minimize the use of natural resources and generation of wastes
 - while supporting fairness and prosperity for all.

Creating sustainable lifestyles

- ▣ Requires a change in social norms and in the design of the systems that support lifestyles.
- ▣ It means rethinking our ways of living – including how we buy and organize our everyday lives.
- ▣ There are also implications for how we socialize, exchange, share, educate, and develop our identities.
- ▣ At the macro level, it is about transforming societies to better meet people’s needs in balance with the natural environment.

- ▣ As citizens, at home and at work,
- ▣ the choices we make on food, housing, mobility
- ▣ consumer goods (including clothes and appliances, etc.),
- ▣ leisure (including tourism products and services)
- ▣ communication, and interaction contribute to building sustainable lifestyles.
- ▣ (This is an updated definition based on UNEP (2010), the Taskforce on Sustainable Lifestyles (Sweden, n.d.).

Food

- ▣ What we eat and drink – how it is produced, processed and provided –
- ▣ how we dispose of it have impacts on the environment and society
- ▣ People make decisions related to food based on both objective
- ▣ subjective factors, including cost, freshness, health impacts,
- ▣ presentation (e.g., packaging), place of origin, convenience, taste, and culture
- ▣ At the use phase in the food system

- ▣ some factors that have impacts on the environment include outlet of purchase, storage period and facilities,
- ▣ preparation process, and consumption.
- ▣ Apart from environmental impacts, concerns around lifestyles and
- ▣ food include health, obesity, an increasing number and intensity of allergies
- ▣ social impacts of agricultural practices

- Globally, almost a third of food harvested is wasted or lost;
- Due to changing dietary trends;
- particularly in urban environments which increasingly favor more resource intensive (GHG producing) foods such as processed foods and meats.
- This occurs in a global context where 1 in 9 people are hungry and 2 in 10 are obese.
- There is clearly potential to shift to more sustainable patterns.

- Cities can encourage more sustainable diets that ensure adequate nutrition
- while reducing environmental footprint,
- raising awareness, and changing behavior around food waste.
- Enacting policies in planning, housing and transportation can also support more sustainable low carbon food systems
- encourage more sustainable local food production such as backyard and community gardens

Housing

- How we live, where we live, what is used to build,
- Heat and cool our living spaces and what we install in our houses
- Have social and environmental impacts.
- The building sector contributes up to 30 per cent of global annual greenhouse gas emissions
- uses up to 40% of all energy (UNEP, 2009).

- In order to address this, we need innovative solutions on
- what future buildings and cities will look like.
- Building construction requires resources such as sand, wood and metals.
- Many of the materials require preprocessing and some of them are sourced through mining.

- The mining process alone causes biodiversity loss, deforestation
- Emissions of GHGs and use of hazardous chemicals.
- People make decisions related to housing
- Based on both objective and subjective factors
- cost and size of the building, building characteristics
- aesthetics, the neighbourhood, and available amenities
- While living in houses we use energy and water, and dispose of waste:

- important energy considerations include
- efficiency insulation
- heating or cooling
- The way neighborhoods are built affects many aspects of society
- including the rate of crime
- commuting distances
- opportunities for neighbors
- to create strong ties
- form vibrant communities

Mobility

- ▣ What forms of transport we choose, how often we travel
- ▣ The transport sector is responsible for 13 per cent of greenhouse gas emissions
- ▣ 23% of CO2 emissions from global energy consumption (GEF-STAP, 2010).
- ▣ Citizens make mobility decisions based on cost, choice of transportation mode,
- ▣ Mode of transportation is particularly significant
- ▣ flying tends to have the highest environmental impact, followed by private car use.
- ▣ Other factors, such as distance covered, number of people in the vehicle per use,
- ▣ For example, policy responses can include combinations of measures that discourage unnecessary transportation,
- ▣ adopt more sustainable modes of transport, and improve existing systems of transport.
- ▣ CONVENIENCE, CLEANLINESS, EFFICIENCY, ACCESS, AESTHETIC.

Consumer goods

- ▣ The products we buy, the type and quantity of materials that are used in producing them,
- ▣ how we use them, and how often we replace them have impacts on society and the environment.
- ▣ Examples include electric and electronic appliances, clothing
- ▣ Products which tend to have the highest impacts are those produced using mined materials and fossil fuels.
- ▣ Consumer goods are important because of their daily use and their role in defining our image and habits.

Leisure

- ▣ How we spend leisure time, our choice of tourism destinations and activities,
- ▣ and the facilities we use have significant contributions to the environment and society.
- ▣ Leisure embodies a wide variety of activities –
- ▣ from meditation and reading to flying and watching television; or swimming, golfing.
- ▣ The expanding role in modern lifestyles of electric and electronic products
- ▣ e.g. mobile phones and other information communication products
- ▣ means related environmental impacts are increasing, through the growth of electronic waste, pollution
- ▣ mining of rare earth metals.

- ▣ These consumption patterns have huge implications for resource scarcity and pollution,
- ▣ with impacts that vary according to fabrics, dyes, chemicals, transportation, and packaging method used.
- ▣ Clothes help us to define who we are and what we stand for, and are connected to our daily lives on a very personal level.
- ▣ With women spending tens to hundreds of hours shopping for clothing every year,
- ▣ fashion has the unique ability to be a highly visible engine for change and even a medium for consumer education.
- ▣ weekend trips, and owning second homes.
- ▣ Each reflects different levels of materialism and social interaction.
- ▣ Staying at and using the services of a five-star hotel, for example, has a higher impact than staying in a three-star hotel.

Key messages from research on sustainable lifestyles

- ▣ There is no universal sustainable lifestyle. What is sustainable in one locality may not be sustainable in another
- ▣ Lifestyles occur within – and are enabled and constrained by – social norms and the physical environment.
- ▣ It is important to differentiate between the factors that can be addressed at the individual or the household level, and those that are beyond individual control (Akenji, 2014) .

- ▣ As society evolves, or becomes more complex and/or affluent, what constitute basic social needs evolve.
- ▣ For example, a mobile phone was perceived as a luxury two decades ago, now it is a perceived need for most adults in industrialized cities, yet it remains a luxury in some parts of the developing world
- ▣ Beyond cities enabling basic needs and needs to operate with dignity within a society, increases in income not directly translate into happiness.

- ▣ Efforts must be made to address the extremes of poverty and wealth in society
- ▣ in order to ensure sustainable lifestyles.
- ▣ Manifestations of social tension get stronger as the disparity of economic conditions
- ▣ between the social classes get wider (Death, 2014; Hilton, 2007)
- ▣ The environmental impacts of lifestyles are not intentional but rather a consequence of people aspiring to fulfil needs and desires, as well as to function in society.
- ▣ It is important to examine how society is organized to provide for the wellbeing of citizens (Shove, 2006; Spaargaren, 2004)

- ▣ Knowledge or awareness of sustainable consumption and lifestyle options does not usually lead to intended actions
- ▣ This knowledge-action or intention-behavior gap suggests that awareness is easily subordinated by lack of access or lock-in to available options
- ▣ Top-down approaches to changing lifestyles will only succeed with participation of civil society.
- ▣ Bottom-up approaches, including social innovations, social movements

Influencing factors of consumption and lifestyles

- ▣ There is vast literature addressing lifestyles and consumption and sustainability (Akenji, 2014; T Jackson, 2005; Mont & Power, 2013; OECD, 2002; Tukker, Cohen, Hubacek, & Mont, 2010; Vergragt, Akenji, & Dewick, 2014).
- ▣ Though the study of lifestyles is not new, looking at "sustainable" lifestyles increases the complexity of intervening factors and their interdependence.
- ▣ This is because sustainability (unlike health, safety and ethics) is not a criterion engrained in operations of many communities,
- ▣ the impacts are not felt immediately or directly, and the translation from theory to policy and practice remains ineffective.
- ▣ What works or does not work is still subject to experiment and debate.
- ▣ There is consensus that, to have more effective sustainable lifestyles policies and practices,
- ▣ it is critical to get context-specific to understand why people consume and what shapes their related behaviors.

- ▣ This context-specific understanding can be derived through three interlinked underlying lifestyle factors: i) motivations; ii) drivers; and iii) determinants.
- ▣ These should be the focus of policies, institutional frameworks, programmes and infrastructure when influencing lifestyle design.
- ▣ i. Motivations refer to the immediate personal and social reasons and justifications that compel people and society to take certain actions or make certain decisions – e.g. the desire to spend time with friends and family, or the seductive presentation of a product.
- ▣ ii. Drivers refer to circumstances that support motivation, normalizing it, or making it practicable – e.g. cultural norms or media marketing.
- ▣ iii. Determinants are super-factors that decide on the possibility of lifestyle or consumer action.
- ▣ Three key determinants explain types of lifestyles: attitudes, facilitators (access), and infrastructure.

Motivations of lifestyle

- ▣ Why do people consume?
- ▣ Studies and empirical evidence suggest that people do not consume
- ▣ with the intention to harm the environment.
- ▣ Resulting environmental impacts are an unintended consequence of the pursuit of well-being.
- ▣ To meet basic needs e.g. nutrition and subsistence, health, housing, mobility
- ▣ To fulfil social functions/expectations e.g. convenience, connectedness, maintaining relationships, traditions •

- ▣ To satisfy personal desires, preferences and tastes e.g. leisure, food preferences, consumer goods (electronics or cars) •
- ▣ Due to the influence of advertising/marketing e.g. creation of new product markets such as pet food and cosmetics, planned obsolescence, or enhanced functionality such as mobile phones that do more than make calls and •

- ▣ The widely referenced Needs-Opportunities-Ability model looks at consumption from the macro-level of society and the micro-level of the household (Gatersleben & Vlek, 1998; OECD, 2002).
- ▣ It assumes that given the opportunities and the necessary abilities, people would pursue fulfilling their needs and desires to improve their quality of life.
- ▣ According to Vlek, needs include relationships, development, comfort, work, health, money, status and safety.
- ▣ Max-Neef, in his widely accepted work (Max-Neef, 1991), has identified some universally present needs:
- ▣ subsistence, protection, affection, understanding, participation, recreation, creation, identity and freedom.
- ▣ These resonate with the motivation behind consumption and lifestyles

Drivers of lifestyles

- ▣ Lifestyles and consumption are governed by a set of complex and dynamic drivers
- ▣ reflect the personal situation (income, identity, individual taste, and values)
- ▣ and external socio-technical and economic conditions (culture, social context, peer pressures, etc.).
- ▣ There are also physical or natural boundaries
- ▣ which allow or constrain lifestyle options.
- ▣ Studies on consumer decision-making in several fields show that

- ▣ cognitive abilities, psychological, social, economic and
- ▣ policy and institutional frameworks all come into play
- ▣ highlighting that driving factors behind lifestyles are inter-linked, and sometimes contradictory.

Below some of the main lifestyle drivers

- ▣ In essence, how we fulfil needs and wants (lifestyles) is framed by factors that range from the personal situation, through the enablers or constraints of broader external sociotechnical conditions, to ultimately physical and natural boundaries. Defra (2011) has referred to this as a distinction between behavioural factors and situational factors.

- ▣ **Income level:** This is one of the strongest lifestyle indicators and drivers of consumption.
- ▣ More disposable income means greater affordability of goods and services and easier access to more credit, that can further consumerism
- ▣ In addition, there is compounded social pressure to maintain lifestyle levels once adopted.
- ▣ **ii. Values:** Values are powerful determinants of attitudes and actions (Brodhag, 2010).

UNIT-III: Natural Resources and their Pollution:

- Air pollution – effects of air pollution
- Clean development mechanism
- Water pollution
- Sustainable waste water treatment –
- Solid waste
- sources
- Impacts of solid waste

- Zero waste concepts
- 3R concept
- Global environmental issues
- Resource degradation
- Climate change
- Global warming
- Ozone layer depletion
- Carbon credits and carbon trading
- Carbon foot prints.

Air pollution

- **Air pollution** is a mixture of solid particles and gases in the air.
- Car emissions, chemicals from factories, dust, pollen and mold spores may be suspended as particles.

Effects of Air pollution

- Long-term health effects from **air pollution**
- heart disease
- lung cancer
- respiratory diseases
- emphysema

clean development mechanism

- The **clean development mechanism** was designed to meet a dual objective
- Help developed countries fulfill their commitments to reduce emissions
- Assist **developing** countries in achieving sustainable **development**.

Goals of CDM

- It has two **main** goals:
- one, to assist countries without emissions targets (**developing** countries) in achieving **sustainable development**.
- Two, help those countries with emission reduction targets under Kyoto (developed countries) in achieving compliance by allowing them to purchase offsets created by **CDM** projects.

Water pollution

- Is the contamination of water bodies, usually as a result of human activities.
- Water bodies include for example
- lakes, rivers, oceans, aquifers and groundwater.
- Water pollution results when contaminants are introduced into the natural environment.

Sustainable waste water treatment

- The centralized sewage treatment technologies expensive, complex
- failing to cater to the total wastewater generated.
- The untreated/partially treated wastewater makes its way to the water body causing
- immense degradation of the ecosystem
- environmental health.

Decentralized sewage treatment

- The decentralized sewage treatment can be both electro-mechanical system
- higher energy requirement or natural systems
- less or no energy requirement.

CSE- CENTRE FOR SCIENCE AND ENVIRONMENT

- CSE has reviewed and documented select case studies that
- present innovative, sustainable and affordable ways
- treating the sewage locally
- reuse/recycle.

- The case studies comprise of the wastewater treatment systems implemented at
- individual
- community/cluster
- municipal level

Vambay scheme

- The housing project is funded under the Vambay scheme
- Its objective
- improved sanitation situation in the community.
- sewage streams are conveyed
- houses
- collected

Solid waste

- ▣ The treated wastewater is
- ▣ reused for landscaping
- ▣ safe disposal of wastewater
- ▣ helps in reduction of Environmental pollution
- ▣ Biogas produced
- ▣ used by the colony residents for cooking

- ▣ Solid wastes from industries are a **source** of toxic metals, hazardous wastes, and chemicals.

Solid waste sources

▣ Eight main sources of solid wastes are as follows:

- ▣ 1. Municipal solid wastes
- ▣ 2. Industrial Solid Wastes
- ▣ 3. Mining solid wastes
- ▣ 4. Fertilizers
- ▣ 5. Pesticides and Biocides
- ▣ 6. Excretory products of humans and livestock
- ▣ 7. Electronic wastes
- ▣ 8. Hospital Wastes.

Impacts of solid waste

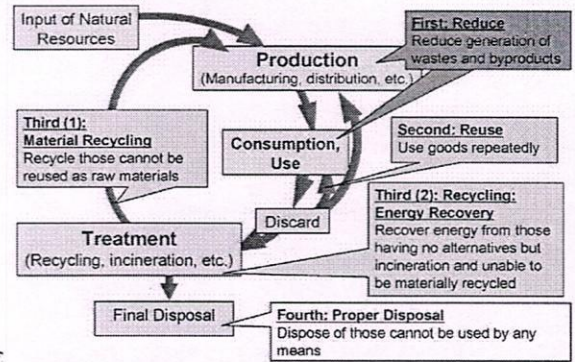
- ▣ An inefficient municipal **solid waste** management system
- ▣ Negative environmental impacts
- ▣ infectious diseases
- ▣ land and water pollution
- ▣ obstruction of drains
- ▣ loss of biodiversity

https://en.wikipedia.org/wiki/Zero_waste

- ▣ **Zero Waste** is a set of principles focused on waste prevention that encourages the redesign of resource life cycles so that all products are reused.
- ▣ The goal is for no trash to be sent to landfills, incinerators or the ocean.

- Currently, only 9% of plastic is actually recycled.
- In a zero waste system, material will be reused until the optimum level of consumption.

3 r concept



Key Global Environmental Problems

- 1 Global Warming. ...
- 2 Ozone Depletion and Destruction. ...
- 3 Sharp Decrease of Forest Cover. ...
- 4 Declining of Biological Diversity. ...
- 5 Acid Rain Pollution. ...
- 6 Land Desertification. ...
- 7 Marine Pollution and Damage. ...
- 8 Water Pollution and Freshwater Resource Shortage.

Resource degradation

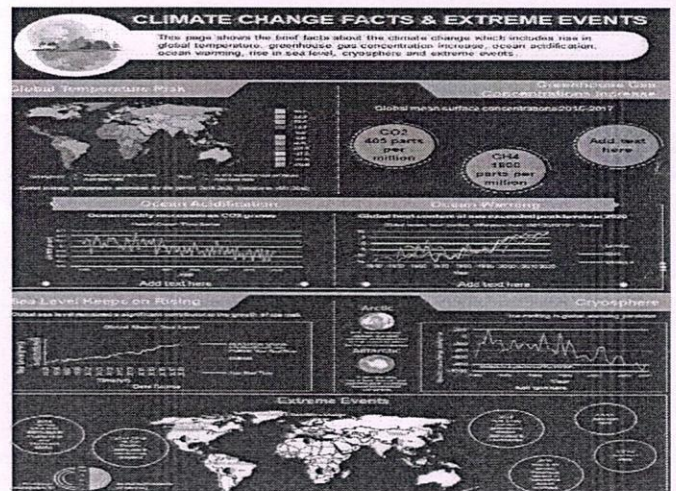
- Due to the increasing global population, the levels of natural resource degradation is also increasing.

Causes of Depletion of Natural Resources

- Overpopulation. ...
- Poor Farming Practices. ...
- Logging. ...
- Overconsumption of Natural Resources. ...
- Pollution. ...
- Industrial and Technological Development.

Climate change

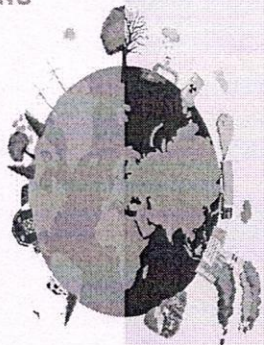
- Environmental problem
- water shortages
- loss of biodiversity
- waste management.



GLOBAL WARMING

40% CO2 EMISSIONS
higher than the natural levels in the past 650,000 years

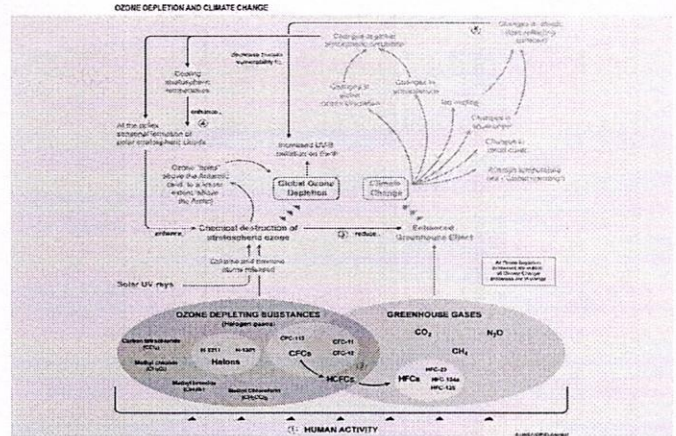
80% ANNUAL EMISSION
The burning of fossil fuels (coal, oil and gas)



50% CARBON SINKS
As of 2006, these ecosystems were only absorbing about 50% of human-produced CO2 the other 50% is accumulating in the atmosphere

8" RISE OCEAN LEVEL
An 8" rise in the ocean level has occurred (1992-2002) due to human induced global warming

POWERGISES _____ 0 _____ GREAT POWERGISES ELECTRIC



Ozone depletion and climate change are two distinct problems but as they both result from the same source, they cannot be easily separated. There are still many uncertainties concerning the relations between the two processes. Several links have been identified, in particular:

(1) Both processes are due to human industrial activities.

(2) Many ozone-depleting substances are also greenhouse gases, like CFC-11 and CFC-12. HCFCs, considered to be milder CFCs, are sometimes stronger greenhouse gases than the CFCs they are replacing, but do not deplete the ozone layer. This fact is taken into account in the negotiations and guidelines on both the Montreal and the Kyoto Protocols.

carbon credit

1 carbon credit corresponds to 1 metric tonne of carbon dioxide prevented from entering the atmosphere.

- Carbon credits allow companies to compensate for their greenhouse gas emissions.
- Now a new blueprint offers a route to create a universally comparable standard for much carbon they save.

- By paying someone else to either reduce their emissions or capture their carbon
- companies can compensate for their environmental footprint
- use carbon credits to get to carbon-neutral status

Calculation of carbon credit earned

On considering the average value of 0.932 tonnes of CO₂ emission reduction per megawatt-hour of electricity

- CO₂ emission reduction per megawatt-hour per year as per the calculation will be
- $0.353 \times 0.932 = 0.33$ tonnes

carbon credit tradable permit

- A carbon credit is a tradable permit or certificate that provides
- the holder of the credit the right to emit one ton of carbon dioxide or an equivalent of another greenhouse gas –
- it's essentially an offset for producers of such gases.
- The main goal for the creation of carbon credits is the reduction of emissions of carbon dioxide and other greenhouse gases from industrial activities to reduce the effects of global warming.

Types of carbon credit

- Those from reduced emissions (typically energy efficiency measures)
- Removed emissions (carbon capture and planting forests)
- And avoided emissions (for example refraining from cutting down rainforests).

- They can purchase carbon credits to comply with the emission cap.
- Companies that achieve the carbon offsets (reducing the emissions of greenhouse gases) are usually rewarded with additional carbon credits.
- The sale of credit surpluses may be used to subsidize future projects for the reduction of emissions.

- The introduction of such credits was ratified in the Kyoto Protocol.
- The Paris Agreement validates the application of carbon credits and sets the provisions for the further facilitation of the carbon credits markets.

Types of Carbon Credits

- **Voluntary emissions reduction (VER):** A carbon offset that is exchanged in the over-the-counter or voluntary market for credits.
- **Certified emissions reduction (CER):** Emission units (or credits) created through a regulatory framework with the purpose of offsetting a project's emissions.
- The main difference between the two is that there is a third party certifying body that regulates the CER as opposed to the VER.

certified emissions reductions (CERs)

- product that can be used as investments in the credits
CERs are sold by special carbon funds
large financial institutions
- The carbon funds provide small investors opportunity to enter the market

Trading Credits

- Carbon credits can be traded on both private and public markets. Current rules of trading allow the international transfer of credits.
- The prices of credits are primarily that specialize in the trading of the credits, including
 - European Climate Exchange
 - NASDAQ OMX Commodities Europe exchange
 - European Energy Exchange.
- Other organizations have cut the bulk of their emissions and used credits to compensate for those they cannot avoid.
- Credits are generally traded in units of 1 tonne of CO₂, and it's estimated that credits worth 2 billion tonnes of CO₂ will be needed to get to the 2030 target.

Carbon credits in action

- The Katingan Project in Indonesia is one such scheme. In 2007, two environmental entrepreneurs began persuading local farmers to abstain from clearing virgin forest in return for selling carbon credits from their land.
- Today, it's the world's largest forest-based avoided-emissions project.
- The project says it has prevented the release of more than 37 million tonnes of CO₂ and saved 200,000 hectares of rare peat swamp forest,
- which is home to five critically endangered species including the Borneo orangutan.
- Europe's most energy-intensive industries, including airlines operating flights between EU member countries, can already use carbon credits to meet mandatory limits on their emissions under the EU Emissions Trading Scheme (EU ETS) which has been operating since 2005.

carbon footprint

- A **carbon footprint** is the total amount of greenhouse gases (including **carbon** dioxide and methane) that are generated by our actions.
- The average **carbon footprint** for a person in the United States is 16 tons, one of the highest rates in the world.
- Throughout a product's lifetime, or lifecycle, different greenhouse gases GHGs
 - may be emitted
 - carbon dioxide (CO₂)
 - methane (CH₄)
 - nitrous oxide (N₂O)
 - each with a greater or lesser ability to trap heat in the atmosphere.

- These differences are accounted for by calculating the global warming potential (GWP) of each gas
- in units of carbon dioxide equivalents (CO_2e), giving carbon footprints a single unit for easy comparison.
- See the Center for Sustainable Systems "[Greenhouse Gases Factsheet](#)" for more information on GWP.
- A typical U.S. household has a carbon footprint of 48 metric tons $\text{CO}_2\text{e}/\text{yr}$.²

SOURCES OF EMISSIONS

FOOD

- Food accounts for 10-30% of a household's carbon footprint, typically a higher portion in lower-income households.
- Production accounts for 68% of food emissions, while transportation accounts for 5%.
- Food production emissions consist mainly of CO_2 , N_2O , and CH_4 , which result primarily from agricultural practices.
- Meat products have larger carbon footprints per calorie than grain or vegetable products because of the inefficient transformation of plant energy to animal energy,
- and due to the methane released from manure management and enteric fermentation in ruminants.

Life cycle Assessment & ISO 14040

UNIT-IV: LIFE CYCLE ASSESSMENT (LCA):

- Introduction
- LCA & Sustainability
- LCA and Environmental system
- LCA and Water, Food & Energy
- Environmental risk assessment
- Environmental data collection and LCA methods
- ISO 14040
- Key points of good LCA with examples.

LIFE CYCLE ASSESSMENT (LCA) IS DEFINED

- " as the systematic analysis of the potential environmental impacts of products or services during their entire life cycle".
- During a Life Cycle Assessment (Life Cycle Analysis),
 - Evaluate the potential environmental impacts
 - Throughout the entire life cycle of a product (production, distribution, use and end-of-life phases) or service.
 - This also includes the upstream (e.g., suppliers) and downstream (e.g., waste management) processes
 - associated with the production (e.g., production of raw, auxiliary and operating materials),
 - use phase
 - disposal (e.g., waste incineration).

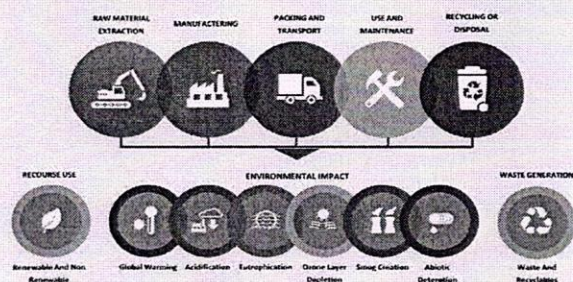
LCA

- LCA is a tool for quantifying the environmental performance of products taking into account the complete life cycle
- starting from the production of raw materials to the final disposal of the products
- Including material recycling if needed.

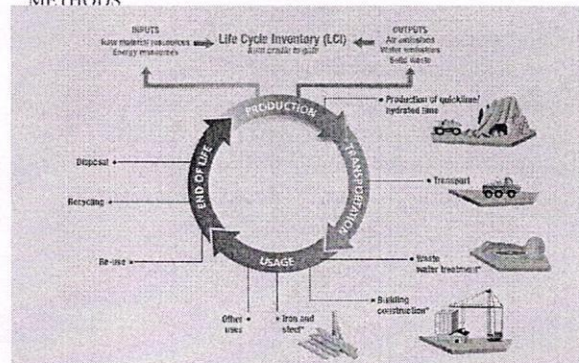
LCA & SUSTAINABILITY

LIFE CYCLE ASSESSMENT

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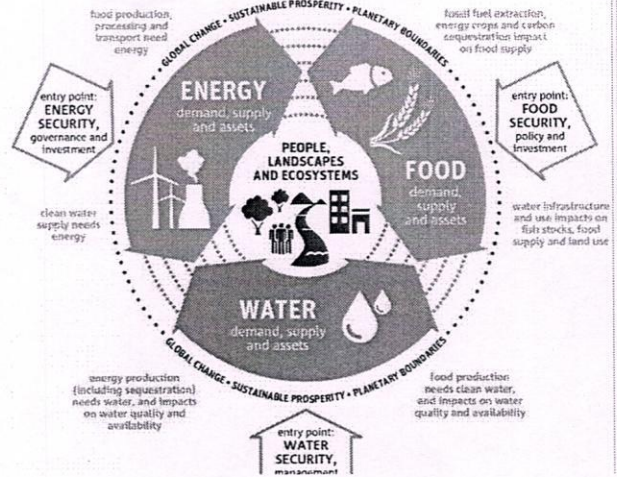


ENVIRONMENTAL DATA COLLECTION AND LCA METHODS



LCA and Environmental system

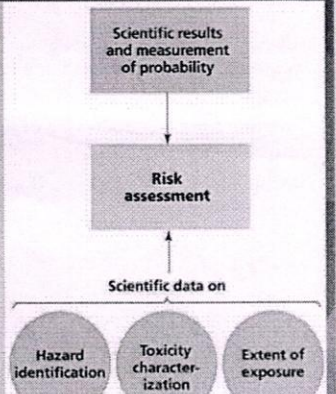
LCA and Water, Food & Energy



Risk Assessment

Involves:

- ✓ Dose-response analysis or other tests of toxicity
- ✓ Assessing likely exposure to the hazard (concentration, time, frequency)



APPLICATIONS OF LIFE CYCLE ASSESSMENT

- The most important applications for an LCA are:
- Identification of improvement opportunities through identifying environmental hot spots in the life cycle of a product.
- Analysis of the contribution of the life cycle stages to the overall environmental load, usually with the objective of prioritizing improvements on products or processes.

LIFE CYCLE IMPACT ASSESSMENT (LCIA)

- covers all relevant inputs from the environment
- e.g., ores and crude oil, water, land use
- emissions into air, water and soil
- e.g., carbon dioxide and nitrogen oxides
- The International Organization for Standardization
- conducting a Life Cycle Assessment according to ISO 14040 and 14044.

ISO 14040 STANDARD

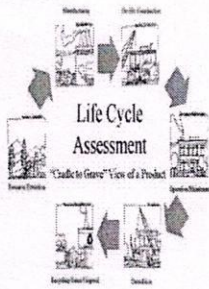
- ISO 14040 → Environmental management: life cycle assessment
- ISO 14040: framework → Nella 14040 general requirement of consistency with the requirements met in the new standard
- ISO 14044: → only one standard
- ISO 14041: → definition of the objective and scope of the analysis, compilation of an inventory of inputs and outputs of a given system
- ISO 14042: → evaluation of potential environmental impacts related to these input and output
- ISO 14043: → Finally, the interpretation of results

KEY POINTS OF GOOD LCA WITH EXAMPLES

Life Cycle Assessment of buildings

Buildings became a major target for environmental improvement as building sector accounted for nearly

- 40% of the world's energy consumption,
- 30% of raw material use and
- 25% of the related global greenhouse gas (GHG) emissions.



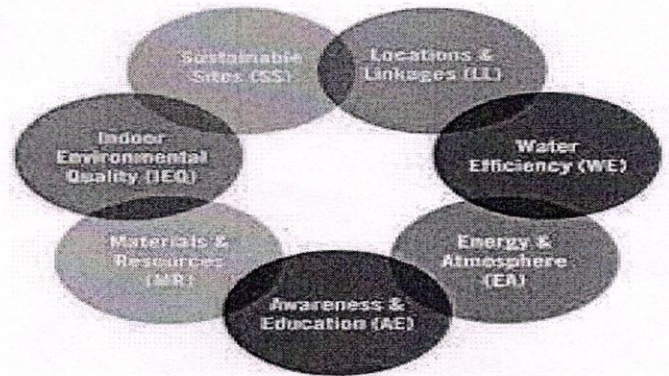
Design for sustainability

Unit V

▣ Design for Sustainability:

- ▣ Green engineering
- ▣ Sustainable engineering principles
- ▣ Green sustainable materials
- ▣ Sustainable urbanization
- ▣ Industrial ecology
- ▣ Industrial symbiosis
- ▣ Case Studies

<https://bioplasticsnews.com/2020/01/14/orange-peel-mushrooms-building-materials/>



Green engineering

<https://www.accessscience.com/content/green-engineering/299903>

- ▣ Green engineering involves
- ▣ Design of products, processes, and systems
- ▣ manageable costs
- ▣ minimize environmental impacts.

Sustainable engineering principle

<https://www.e-education.psu.edu/eme504/node/55>

- ▣ Strive to ensure that material/energy inputs and outputs not hazardous
- ▣ Waste minimization over waste management.
- ▣ Design for easy separation and purification.
- ▣ Designed for maximum mass, energy, and temporal efficiency.
- ▣ Avoid unnecessary consumption of mass/energy versus.
- ▣ Use entropy and complexity as guidelines to decide end-of-cycle.

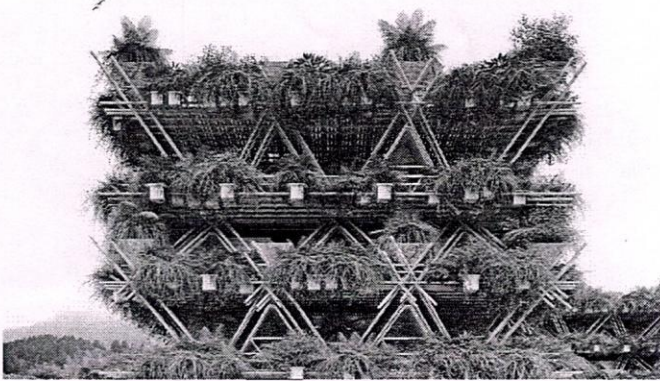
Green sustainable materials

https://www.architectmagazine.com/technology/material-strategies-for-sustainable-construction_0

- ▣ A product must not outlast its uses.
- ▣ Not have unnecessary capabilities/capacities.
- ▣ Minimize material diversity.
- ▣ Product creation is only one part of the cycle.
- ▣ Evaluate products based on life-cycle analysis.
- ▣ Prioritize the use of renewable and readily available resources.

- ▣ Buildings with a significant amount of biomass-based materials (sustainably harvested, of course) may therefore be viewed as carbon banks.
- ▣ Beijing-based Penda's 2015 Beijing Design Week contribution *Rising Canes*,
- ▣ an adaptable, multistory construction system that uses nothing but bamboo and natural fiber rope—two biomass products
- ▣ that require minimal processing and therefore maximize this kind of literal carbon accounting in architecture.

Rising Canes, a proposal for multistory bamboo construction by Beijing firm Penda



Sustainable urbanization

- **Green urbanism** has been defined as the practice of creating communities beneficial to humans and the environment.
- According to Timothy Beatley, it is an attempt to shape more **sustainable** places, communities and lifestyles, and consume less of the world's resources.



Industrial Ecology (IE)

- is a field of study focused on the stages of the production processes of goods and services from a point of view of nature, trying to mimic a natural system by conserving and reusing resources (Chertow, 2008).

principles of industrial ecology

- Defined by Tibbs (1992) are:
Create **industrial** ecosystems - close the loop; view waste as a resource; create partnerships with other **industries** to trade by-products which are used as inputs to other processes.

- **Industrial ecology** was popularized in 1989 in a Scientific American article by Robert Frosch and Nicholas E. Gallopoulos.