

**1.3.1. Institution integrates crosscutting issues relevant to Professional Ethics, Gender, Human Values, Environment and Sustainability in transacting the Curriculum**

**Summary:**

**1. Women Empowerment Cell Activities**

**2. Projects on Environment and Sustainability**


**3. Courses on Professional Ethics, Gender, Human Values, Environment and Sustainability.**



**PRINCIPAL  
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**Siddhartha Educational Academy  
Group of Institutions  
Near C.GOLLAPALLI, Tirupati (R)-517 505  
Tirupati Dist. (A.P.)**

# 1. Women Empowerment Cell Activities

  
**PRINCIPAL**  
Siddhartha Educational Academy  
Group of Institutions  
Near C.GOLLAPALLI, Tirupati (R)-517 505  
Tirupati Dist. (A.P.)



**SIDDARTHA EDUCATIONAL ACADEMY GROUP OF INSTITUTIONS**  
(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapur)  
An ISO 9001: 2015 & ISO 14001: 2015 certified Institution  
Near C. Gollapalli, Tirupati (Rural) – 517 505, Andhra Pradesh  
Phone: 8008202337, 996670041  
College e-mail ID: [siddarthaedu@gmail.com](mailto:siddarthaedu@gmail.com), website: [siddarthaedu.in](http://siddarthaedu.in)

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**WOMEN EMPOWERMENT CELL ACTIVITIES**

<b>ACADEMIC YEAR</b>	<b>NO.OF EVENTS CONDUCTED</b>
2022-2023	5
2021-2022	4
2020-2021	NIL
2019-2020	3
2018-2019	4

**CONVENER**

**[Women Empowerment Cell]**

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College e-mail ID: [siddarthaedu@gmail.com](mailto:siddarthaedu@gmail.com), website: [siddarthaedu.in](http://siddarthaedu.in)

**WOMEN EMPOWERMENT CELL ACTIVITIES 2022-2023**

S.NO.	DATE	SPEAKER/GUEST	TOPIC	PARTICIPANTS ATTENDED
1	13/08/2022	Dr.Revathi & Dr.Sri Kamani	Chip to Solutions	Women Scientists, All students & Faculty
2	13/02/2023- 25/03/2023	Dr.V.K.Madhusmitha Rani	Add on Program on POSH ACT, 2013	I & II Year Womer Students & Faculty
3	08/03/2023	Dr.V.Kala Rani	Awareness on Women Enterpreneurship- Renewable energy	STUDENTS
4	25/03/2023	Dr.Thanuja	Awareness on Health and Menstrual Hygiene	Women Faculty & STUDENTS
5	06/04/2023	Mrs.N.Pavithra	Women rights	STUDENTS

**CONVENER**

[Women Empowerment Cell]

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**Ananthapuramu**

**WOMEN EMPOWERMENT CELL ACTIVITIES 2021-2022**

S.NO.	DATE	SPEAKER/GUEST	TOPIC	PARTICIPANTS ATTENDED
1	11/11/2021	Mrs.K.Suma Latha	Equity, Inclusion & justice for Women	STUDENTS
2	20/01/2022	Dr.T.Lakshmi Thulasi	Eradication of Illiteracy for Women	STUDENTS
3	24/03/2022	Dr.E.Divya	Boost her self-esteem	Women Faculty & STUDENTS
4	28/04/2022	Mrs.N.Srilekha	Signal Boost other Women	STUDENTS

  
CONVENER

[Women Empowerment Cell]

  
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**WOMEN EMPOWERMENT CELL ACTIVITIES 2019-2020**

S.NO.	DATE	SPEAKER/GUEST	TOPIC	PARTICIPANTS ATTENDED
1	26/12/2019	Mrs.P.B.Lavanya	BETI BACHAO BETI PADHAO	Women Faculty & STUDENTS
2	21/02/2020	Mrs.N.Pavithra	Awareness on Women Reservation	STUDENTS
3	22/04/2020	Mrs.Jaya Deepthi	Disha App	STUDENTs

**CONVENER**

**[Women Empowerment Cell]**

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**WOMEN EMPOWERMENT /PROTECTION CELL ACTIVITIES 2018-2019**

S.NO.	DATE	SPEAKER/GUEST	TOPIC	PARTICIPANTS ATTENDED
1	26/12/2018	Mrs.N.B.Jyothi	Awareness on Women Entrepreneurship	Women Faculty & STUDENTS
2	21/01/2019	Mr.P.Bayya Reddy	Media & Gender	STUDENTS
3	08/03/2019	Mrs.D.M.NagaDeepa	Impact of Stress on Women Health	Women Faculty & STUDENTS
4	13/06/2019	Mrs.A.UshaRani	Economic Empowerment	STUDENTS

**CONVENER**

[Women Empowerment Cell]

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SEAGI/PERMISSION/WOMEN EMPOWERMENT /2022

Date: 01/08/2022

**Permission Letter**

To  
The Principal,  
SEAGI,  
Tirupati.

Sir,

**Sub:** Permission for conducting a one day workshop on '**CHIP TO SOLUTIONS**' in our college

With reference to the subject cited above, **Women Empowerment Cell** intends to conduct a one day workshop on '**CHIP TO SOLUTIONS**' in our college on **13-08-2022** in collaboration with JNTU, Anantapur. Therefore, I request you to kindly grant us permission to make necessary arrangements and to conduct the program successfully.

Thanking you sir,

**PRINCIPAL**

Siddhartha Educational Acad...

Group of Institutions

Near C.GOLLAPALLI, Tirupati (R)-517 505

Tirupati Dist. (A.P.)

Yours Sincerely,

**CONVENER**

**[WOMEN EMPOWERMENT CELL]**



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**College e-mail ID: [siddarthaedu@gmail.com](mailto:siddarthaedu@gmail.com) website: [siddarthaedu.in](http://siddarthaedu.in)**

---

**Date: 02/08/2022**

## **Circular**

This is to inform the girl students and Women faculty of all the branches that Women empowerment cell is conducting a one day workshop on 'CHIP TO SOLUTIONS' in our college to encourage women entrepreneurs in Chip making on **13.8.2022**. Therefore, all of you are requested to register for the program.

**PRINCIPAL**

**Siddhartha Educational Academy**

**Group of Institutions**

**Near C.GOLLAPALLI, Tirupati (R)-517 505**

**Tirupati Dist. (A.P.)**

**CONVENER**

**[WOMEN EMPOWERMENT CELL]**

### **Copy to:**

1. The Committee members
2. The Notice Board
3. The File



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SEAGI/CIR/ COMMITTEE MEMBERS /2022

Date: 01/8/2022.

**CIRCULAR**

It is to inform the members of Women empowerment cell that meeting will be held at 11am in the Board room on 01-8-2022 to discuss about conducting a one day workshop on “CHIP TO SOLUTIONS” in our college .Therefore, all the members of the committee are requested to attend the meeting compulsorily.

Agenda of Meeting: Conducting a one day workshop on ‘CHIP TO SOLUTIONS’

S.NO	NAME OF THE FACULTY	DEPARTMENT	SIGNATURE
1	Dr.V.K.Madhusmitha Rani	H&S	
2	Mrs.N.Pavithra	ECE	
3	Mrs.V.Priyanka Reddy	CIVIL	
4	Mrs.G.Kavitha	EEE	
5	Mrs.P.Sneha	MECH	
6	Mrs.G.Swetha	ECE	
7	Mrs.K.JayaDeepthi	CSE	
8	Mrs.D.Pushpalatha	CSE	
9	Mrs.M.B.Jyothi	MBA	
10	Ms.D.Rizwana	ECE	
11	Ms.P.B.Nandhini	EEE	
12	Ms.D.Tejaswi	CIVIL	
13	Ms.A.Indhu	CSE	
14	Ms.N.Supraja	H&S	
15	Ms.B.Jayasudha	MBA	

  
PRINCIPAL

Siddhartha Educational Academy  
Group of Institutions

Near C.GOLLAPALLI, Tirupati (R)-517 505  
Tirupati Dist. (A.P.)

  
CONVENER

WOMEN EMPOWERMENT CELL

Copy to:

1.The Principal


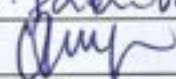
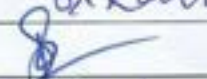
2.All the members of committee


3.The file



## Minutes of Meeting

1. Resolved to conduct a one day workshop on 'CHIP TO SOLUTIONS' on 13-08-2022.
2. Resolved to make all arrangements for the guest speakers, to arrange the event in the auditorium, as the event is in coordination with JNTUA, Invitation and circular to be sent to all colleges in the district, inviting girl students and women staff for registration
3. Resolved to allot work to all girl students of all branches and women faculty to in all committees
4. Resolved to organise the program, followed by lunch, certificate distribution, felicitation to the speakers, transportation arrangements

S.NO	NAME OF THE FACULTY	DEPARTMENT	SIGNATURE
1	Dr.V.K.Madhusmitha Rani	H&S	
2	Mrs.N.Pavithra	ECE	N. Pavithra
3	Mrs.V.Priyanka Reddy	CIVIL	
4	Mrs.G.Kavitha	EEE	G. Kavitha
5	Mrs.P.Sneha	MECH	
6	Mrs.G.Swetha	ECE	G. Swetha
7	Mrs.K.JayaDeepthi	CSE	K. Jayadeepthi
8	Mrs.D.Pushpalatha	CSE	D. Pushpa
9	Mrs.M.B.Jyothi	MBA	M. B. Jyothi
10	Ms.D.Rizwana	ECE	D. Rizwana
11	Ms.P.B.Nandhini	EEE	P. B. Nandhini
12	Ms.D.Tejaswi	CIVIL	Tejaswi
13	Ms.A.Indhu	CSE	A. Indhu
14	Ms.N.Supraja	H&S	N. Supraja
15	Ms.B.Jayasudha	MBA	B. Jayasudha

  
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**CONVENER**

[WOMEN EMPOWERMENT CELL]



# Invitation



Siddhartha Educational Academy

Group of Institutions

in association with

Jawaharlal Nehru Technological University Anantapur

organizes

An Awareness programme on

## Chip to Solutions

Azadi Ka Amrit Mahotsav

(Commemorating 75 years of India Independence)

75 women in Semiconductor Education and Research.

### CHIEF GUESTS:

Prof. K. Hema Chandra Reddy  
Chairman ,APSCHE

Govt of Andhra Pradesh

&

Prof. G. Ranga Janardhan  
Vice-Chancellor , JNTUA

### GUESTS OF HONOUR

Prof.C.Sashidhar

Registrar ,JNTUA

&

Sri.Ganesan Narayanasamy

Senior Technical Computing

Solution and Client Care Manager

at IBM,NY

### PRESIDENT

Sri.Y.Anand Reddy

Secretary&Correspondent

Siddhartha Educational Academy ,

Tirupati

### PATRON

Dr.K.Rajasekhar

Principal,SEAT

### CO-ORDINATORS:

Dr.V.K Madhu Smitha Rani

Professor

Department of Physics

Tirupati

PRINCIPAL G. Mamatha

Siddhartha Educational Academy

Group of Institutions, SDIC

Near C.GOLLAPALLI, Tirupati (A.P.)

Tirupati Dist. (A.P.)

**Date & time: 13-08-2022 , 10:00am**

### Venue:

SIDDHARTHA EDUCATIONAL ACADEMY GROUP OF INSTITUTIONS

An Integrated Campus for Engineering and MBA

C. Gollapalli, Tirupati

Andhra Pradesh 517505





75  
Azadi Ka  
Amrit Mahotsav

**Siddhartha Educational Academy**  
in association with  
**Jawaharlal Nehru Technological University Anantapur**



organizes  
Awareness program on

**Chip to Solutions**

Azadi Ka Amrit Mahotsav  
(Commemorating 75 years of India independence)  
75 women in Semiconductor education and Research.

**Date Of Event :**  
**13th August, 2022**

Eligibility: Women faculty and students

**Guests :**



**Prof K. HEMACHANDRA REDDY**

Chairman, APSCHE



**Prof G. RANGA JANARDHAN**

Vice-Chancellor, JNTUA



**Prof C. SASHIDHAR**

Registrar, JNTUA



**Sri Y. ANAND REDDY**

Secretary & correspondent  
Siddhartha Educational Academy,  
Tirupati



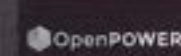
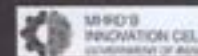
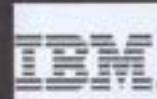
**SRI GANESAN  
NARAYANASWAMY**

Senior Technical Computing  
Solution and Client Care Manager  
at IBM, NY

**Venue:**

SIDDARTHA EDUCATIONAL ACADEMY GROUP OF INSTITUTIONS  
An Integrated Campus for Engineering and MBA  
C. Gollapalli, Tirupati  
Andhra Pradesh 517505

**Collaborators:**



Siddhartha Educational Academy  
Group of Institutions  
C. Gollapalli, Tirupati (R)-517 505  
Tirupati Dist., (A.P.)



# Speakers

## Smt.ShobhaRani G

Deputy General Manager  
Software SBU  
Bharat Electronics Limited  
Bangaluru



Deputy General Manager at Software department of Bharat Electronics Limited, Bangalore. Group head for Artificial Intelligence Technology team and responsible for Research, Development and Deployment of AI enabled products / Solutions of BEL. She led a software engineering team focused on Business Intelligence, Machine learning, Deep learning, Computer Vision, NLP and Data Analytics. Associated with many Start-ups towards incubating service offerings and delivering innovative products in the domain of Artificial Intelligence is considerable.

## Dr V Veeresh Babu

Senior Manager  
Analog and Mixed Signal Design  
AMS semiconductor India Pvt Ltd  
Hyderabad



Received his PhD from BITS Pilani and M.Tech from IIT Bombay, India. Worked as team lead at Qualcomm Logic India, during 2003 to 2006. Successfully taped out many PLL IPs and a clock chip. Currently working as manager for analog IC design team in ams semiconductors India. Experienced in ams includes high precision analog circuits such as voltage references, high precision temperature sensors, Sigma delta ADCs, SAR ADCs and DC-DC converter focused on automotive design flow.

## Satyadhyan Chickerur G

Professor  
KLE Technological University  
Hubli, Karnataka



Received B.E degree in E&C, M.Tech in CSE, and Ph.D. in Computer and Information Sciences. Head of the Centre for High-Performance Computing at KLE Technological University, Hubli. Member of ISTE, IEEE, and ACM. Execom member of IEEE signal processing society, Bangalore chapter (2007-2009).

## Dr.M.Revathy

Associate Professor  
PSNA College of Engineering & Technology  
TamilNadu



Obtained doctoral degree in Information and Communication Engineering from Anna University, Chennai in the year 2015. Has a teaching experience of around fifteen years. Areas of interest include optimization of forward error correction codes, block codes, Communication Systems, VLSI architectures, and Embedded Design. President of PSNA Toastmasters club.

## Mrs. Sri Kamani

Tech Lead  
Object Automation  
Tamil Nadu



Mrs. Sri Kamani has a decade of experience in software development and 7+ years of experience in training programs. Professional guidance with a Practical approach made successful delivery, is her value addition to the participants. She is working with clients and building AI and Edge computing solutions for Health care, Aero, and Retail industries

Eligibility: Women faculty and students

Register here



<https://forms.gle/uywMqYmdvp2c5Kvw8>

**Venue:**

SIDDARTHA EDUCATIONAL ACADEMY GROUP OF INSTITUTIONS

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C.Gollapalli, Tirupati  
Andhra Pradesh 517505

<https://goo.gl/maps/SPGkot4jW4Ewd6qY7>

**Coordinators:**

## Dr.V.K Madhu Smitha Rani

professor  
Department of Physics, SEAT  
Tirupati  
Phone Number : 9441079394  
MAIL ID : ism\_sdic@siddarthaedu.in

## Dr.G. Mamatha

Coordinator ,SDIC  
JNTUA, Anantapuramu  
Phone Number : 9515114386  
MAIL ID : csdcic@jntua.ac.in

**Collaborators:**







75  
Azadi Ka  
Amrit Mahotsav



**Siddhartha Educational Academy**  
in association with  
**Jawaharlal Nehru Technological  
University Anantapuramu**

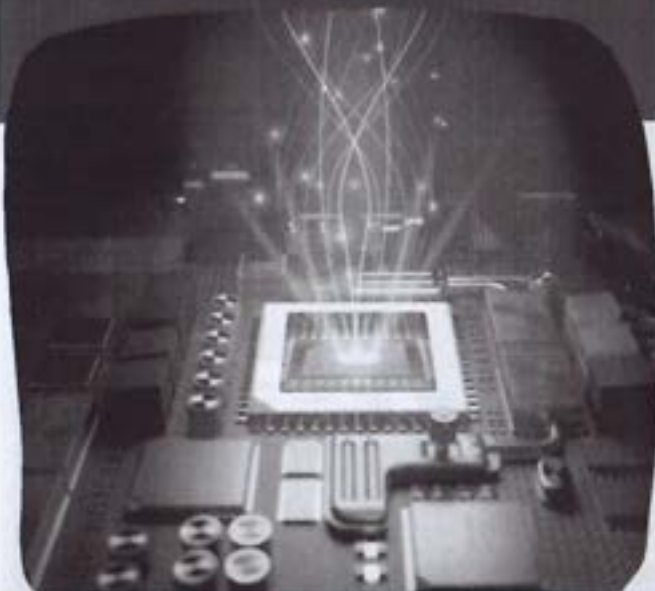
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Awareness programme on

**Chip to Solutions**

Azadi Ka Amrit Mahotsav  
(Commemorating 75 years of India Independence)  
75 women in Semiconductor education and Research.

on 13th August, 2022



## About Siddhartha Educational Academy Group of Institutions



"Siddhartha Educational Academy Group of Institutions", well known as SEAT is to imparting quality value based education of international standard and imbining skill for solving real life problems. Creating leadership qualities with perspective futuristic vision and instilling habit of continual learning.

### About JNTUA Skill Development And Incubation Centre

JNTUA incubation centre aims to promote and support the creativity of individual student and faculty to assist them in becoming technology-based entrepreneurs. It provides a platform for students to convert their innovative ideas into commercially viable products. JNTUA incubation centre is expected to become a focal point for developing technology start-up companies and technology solutions.



A state-of-the-art incubation facility with 10,000 square feet is available for potential incubates to use. The facility was designed with incubation in mind and includes laboratories, a conference hall, meeting rooms, and start-up office space, among other amenities.

### About Programme

The main objective of this programme is to emphasize the importance of chip design and its solutions. COVID-19 pandemic one of the many consequences is slowdown in chip production. To bridge that India Semiconductor Mission was launched by India. Azadi Ka Amrit Mahotsav is the celebration of India 75 years Independence hence this program will empower 75 women in Semiconductor education research and development. IBM and Open Power foundation are collaborating in chip solutions in open source principles.



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SEAGI/PERMISSION/WOMEN EMPOWERMENT /2023

Date: 01-03-2023

**Permission Letter**

To  
The Principal,  
SEAGI, Tirupati.

Sir,

**Sub:** Permission for Conducting an Awareness program on women – Entrepreneurship- Renewable energy’ – Reg.

With reference to the subject cited above, **Women Empowerment Cell** intends to conduct a guest lecture titled “**Awareness program on women – Entrepreneurship- Renewable energy**” for the girl students and Women faculty of the college on **08-03-2023**. The speaker of this program is **Prof. V. Kalarani**, HOD, Dept of Bio-technology Sri Padmavathi Mahila University who has profound knowledge on this topic.

Therefore, I request you to kindly grant us permission to make the necessary arrangements and conduct the program successfully.

Thanking you sir,

*Yes*  
*✓*  
**PRINCIPAL**  
Siddartha Educational Acad.  
Group of Institutions  
Near C.GOLLAPALLI, Tirupati (R)-517 505  
Tirupati Dist. (A.P.)

Yours Sincerely,

*[Signature]*  
**CONVENER**  
**[WOMEN EMPOWERMENT CELL]**

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SEAGI/CIR/WOMEN EMPOWERMENT /2023

Date: 06-03-2023

**Circular**

This is to inform the girl students and Women faculty of all the branches that a guest lecture is intended to be organised on the topic “**Awareness program on women – Entrepreneurship- Renewable energy**” which is scheduled on **08-03-2023**.

Therefore, the students are encouraged to attend the program without fail on the stipulated date.

  
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**CONVENER**  
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SEAGI/CIR/ COMMITTEE MEMBERS /2023

Date: 06-03-2023.

**CIRCULAR**

It is to inform the members of Women empowerment cell that the meeting will be held at 11am in the Board room on 06-03-2023, to discuss about conducting an 'Awareness program on women – Entrepreneurship- Renewable energy' in our college Therefore, all the members of the committee are requested to attend the meeting compulsorily.

**Agenda of Meeting:**

Conducting of an Awareness program titled 'Awareness program on women – Entrepreneurship- Renewable energy'.

S.NO	NAME OF THE FACULTY	DEPARTMENT	SIGNATURE
1	Dr.V.K.Madhusmitha Rani	H&S	
2	Mrs.N.Pavithra	ECE	
3	Mrs.V.Priyanka Reddy	CIVIL	
4	Mrs.G.Kavitha	EEE	
5	Mrs.P.Sneha	MECH	
6	Mrs.G.Swetha	ECE	
7	Mrs.K.JayaDeepthi	CSE	
8	Mrs.D.Pushpalatha	CSE	
9	Mrs.M.B.Jyothi	MBA	
10	Ms.D.Rizwana	ECE	
11	Ms.P.B.Nandhini	EEE	
12	Ms.D.Tejaswi	CIVIL	
13	Ms.A.Indhu	CSE	
14	Ms.N.Supraja	H&S	
15	Ms.B.Jayasudha	MBA	

Copy to:

1.The Principal

2.All the members of committee

3.The file

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Siddhartha Educational Academy

Group of Institutions

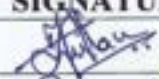
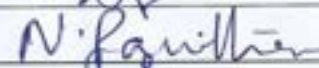
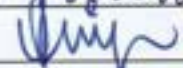
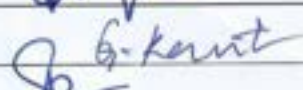


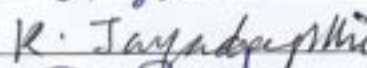
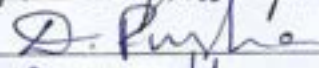
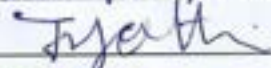
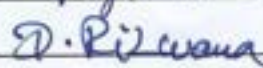
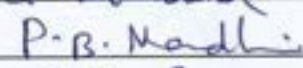
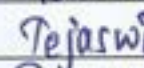
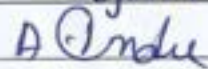
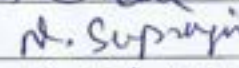
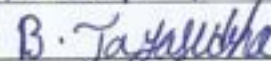
C.GOLLAPALLI, Tirupati (R)-517 505


Tirupati Dist. (A.P.)

**CONVENER****WOMEN EMPOWERMENT CELL**

## Minutes of Meeting

1. Resolved to conduct an Awareness program titled 'Awareness program on women – Entrepreneurship- Renewable energy' on 08-03-2023.
2. Resolved to invite a Guest speaker **Prof. V. Kalarani. HOD**, Dept of Bio-technology SriPadmavathi Mahila University.
3. Resolved to invite the girl students of all branches and women faculty.
4. Resolved to organise the program in the E-classroom.

S.NO	NAME OF THE FACULTY	DEPARTMENT	SIGNATURE
1	Dr.V.K.Madhusmitha Rani	H&S	
2	Mrs.N.Pavithra	ECE	
3	Mrs.V.Priyanka Reddy	CIVIL	
4	Mrs.G.Kavitha	EEE	
5	Mrs.P.Sncha	MECH	
6	Mrs.G.Swetha	ECE	
7	Mrs.K.JayaDeepthi	CSE	
8	Mrs.D.Pushpalatha	CSE	
9	Mrs.M.B.Jyothi	MBA	
10	Ms.D.Rizwana	ECE	
11	Ms.P.B.Nandhini	EEE	
12	Ms.D.Tejaswi	CIVIL	
13	Ms.A.Indhu	CSE	
14	Ms.N.Supraja	H&S	
15	Ms.B.Jayasudha	MBA	

  
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Phone: 8008202337, 9966700414

College e-mail ID: [siddarthaedu@gmail.com](mailto:siddarthaedu@gmail.com) website: [siddarthaedu.in](http://siddarthaedu.in)

---

DATE: 01/03/2023

**INVITATION LETTER**

To


**Prof. V. Kalarani. HOD,**  
Dept of Bio-technology,  
Sri Padmavathi Mahila University,  
Tirupati.

Madam,

Sub: Letter of invitation for conducting an “Awareness program on women –  
Entrepreneurship- Renewable energy”- Reg

We would like to invite you to be the guest speaker for an “Awareness program on  
women – Entrepreneurship- Renewable energy” which is scheduled on 08-03-2023.

In this regard, we request you to accept our invitation and deliver your valuable  
information.

  
**PRINCIPAL**  
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Near C.GOLLAPALLI, Tirupati (R)-517 505  
Tirupati Dist. (A.P.)

Yours Sincerely,

  
**CONVENER**

**[Women Empowerment Cell]**





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---

**Date: 08-03-2023.**

### **Certificate of Appreciation**

We sincerely thank **Prof. V. Kalarani**, HOD, Dept of Bio-technology,  
Sri Padmavathi Mahila University , for delivering a lecture on '**Awareness  
program on women – Entrepreneurship- Renewable energy**' conducted on  
08-03-2023 organized by Women Empowerment cell.

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*Smita*

*q*  
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SEAGI/PERMISSION/WOMEN EMPOWERMENT /2023

18/3/2023

**Permission Letter**

To  
The Principal,  
SEAGI, Tirupati.

Sir,

**Sub: Permission for Conducting an Awareness program on Health and menstrual Hygiene – Reg.-**

With reference to the subject cited above, **Women Empowerment Cell** intends to conduct a guest lecture on “**Awareness program on Health and menstrual Hygiene**” for the girl students and Women faculty of the college on **25/3/2023**. The speaker of this program is **Dr. T. THANUJA** who has profound knowledge on this topic.

Therefore, I request you to kindly grant us permission to make the necessary arrangements and to conduct the program successfully.

Thanking you sir,

  
**PRINCIPAL**  
Siddhartha Educational Acade:  
Group of Institutions  
Near C.GOLLAPALLI, Tirupati (R)-517 505  
Tirupati Dist. (A.P.)

Yours Sincerely  
  
**CONVENER**  
**[WOMEN EMPOWERMENT CELL]**





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SEAGI/CIR/WOMEN EMPOWERMENT /2023


Date: 19/03/2023


**Circular**

This is to inform the girl students and Women faculty of all the branches that Women Empowerment Cell intended to organise a guest lecture by **Dr.T.Thanujaon** “**Awareness program on Health and menstrual Hygiene**” which is scheduled on **25/03/2023**.

Therefore, the students are encouraged to attend the program without fail on the stipulated date.

Thanking you

  
**PRINCIPAL**  
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Group of Institutions  
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Tirupati Dist. (A.P.)

  
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1. The Committee members
2. The Notice Board
3. The File



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**SEAGI/CIR/ COMMITTEE MEMBERS /2023**

**Date: 18/3/2023**

**CIRCULAR**

It is to inform the members of Women empowerment cell that the meeting will be held at 11am in the Board room on 18-3-2023. To discuss about conducting an 'Awareness program on Health and menstrual Hygiene' in our college Therefore, all the members of the committee are requested to attend the meeting compulsorily.

**Agenda of Meeting:**

Conducting an Awareness program on 'Health and menstrual Hygiene'

S.NO	NAME OF THE FACULTY	DEPARTMENT	SIGNATURE
1	Dr.V.K.Madhusmitha Rani	H&S	
2	Mrs.N.Pavithra	ECE	
3	Mrs.V.Priyanka Reddy	CIVIL	
4	Mrs.G.Kavitha	EEE	
5	Mrs.P.Sneha	MECH	
6	Mrs.G.Swetha	ECE	
7	Mrs.K.Jaya Deepthi	CSE	
8	Mrs.D.Pushpalatha	CSE	
9	Mrs.M.B.Jyothi	MBA	
10	Ms.D.Rizwana	ECE	
11	Ms.P.B.Nandhini	EEE	
12	Ms.D.Tejaswi	CIVIL	
13	Ms.A.Indhu	CSE	
14	Ms.N.Supraja	H&S	
15	Ms.B.Jayasudha	MBA	

Copy to:

- 1.The Principal
- 2.All the members of committee
- 3.The file

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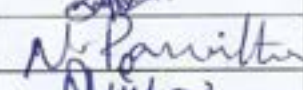
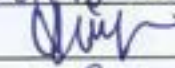
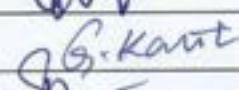
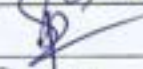
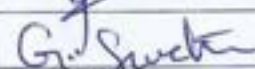
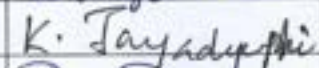
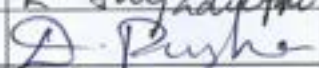
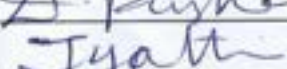
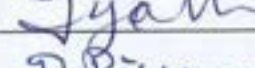
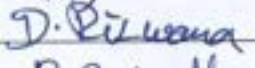
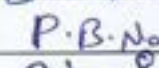
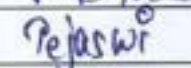
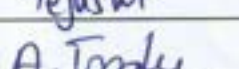
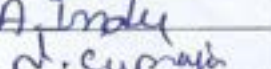
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**WOMEN EMPOWERMENT CELL]**



## Minutes of Meeting

1. Resolved to conduct an Awareness program on 'Health and menstrual Hygiene' on 25-03-2023.
2. Resolved to invite a Guest speaker **Dr. T. THANUJA**, Obstetrician &Gynaecologist to our college.
3. Resolved to invite the girl students of all branches and women faculty.

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10	Ms.D.Rizwana	ECE	
11	Ms.P.B.Nandhini	EEE	
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13	Ms.A.Indhu	CSE	
14	Ms.N.Supraja	H&S	
15	Ms.B.Jayasudha	MBA	

  
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**College e-mail ID: [siddarthaedu@gmail.com](mailto:siddarthaedu@gmail.com) website: [siddarthaedu.in](http://siddarthaedu.in)**

---

**SEAGI/CIR/ COMMITTEE MEMBERS /2023**

**INVITATION LETTER**

To

**Dr. T. THANUJA,**  
Obstetrician & Gynaecologist


Madam,

Sub: Letter of invitation for conducting an “Awareness program on Health and menstrual Hygiene”-  
**Reg**

We would like to invite you to be the guest speaker for an “Awareness program on Health and menstrual Hygiene” which is scheduled on **25/3/2023**.

In this regard, we request you to accept our invitation and deliver your valuable information.

Yours Sincerely

  
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Siddhartha Educational Academy  
Group of Institutions  
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Tirupati Dist. (A.P.)



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Near C. Gollapalli, TIRUPATI (Rural) - 517 505 (A.P.)

Health & Menstrual Hygiene

25/3/23


By: Dr. T. Tharunja, MD. **WOMEN EMPOWERMENT**

Sl No	Name of the student	Signature of the Student
1.	A. Ishwarya	A. Ishwarya
2.	K. Bharathi	K. Bharathi
3.	N. Kavyasree	N. Kavyasree
4.	K. Preethi	K. Preethi
5.	M. Sravanthi	M. Sravanthi
6.	R. Rachana	R. Rachana
7.	T. Monika	T. Monika
8.	U. Keerthi	U. Keerthi
9.	S. Deekshitha	S. Deekshitha
10.	K. Yamini	K. Yamini
11.	J. Pranavika	J. Pranavika
12.	Sneha	Sneha
13.	A. Bhargavi	A. Bhargavi
14.	B. Pallavi	B. Pallavi
15.	E. Kavya Sree	E. Kavya Sree
16.	C. Sravaha Sandhya	C. Sravaha Sandhya
17.	R. Harshitha	R. Harshitha
18.	K. Aishwarya	K. Aishwarya
19.	G. Gaurani	G. Gaurani
20.	B. Sai Mahitha	B. Sai Mahitha
21.	Ch. Deepthi	Ch. Deepthi
22.	N. Supriya	N. Supriya
23.	C. Priya	C. Priya
24.	A. Gayathri	A. Gayathri
25.	Ch. Diya Sahithi	Ch. Diya Sahithi
26.	B. Divya	B. Divya
27.	Keerthi	Keerthi
28.	Pratyusha	Pratyusha
29.	E. Chandricle	E. Chandricle
30.	P. Deepthi	P. Deepthi
31.	K. Venkata Sushma	K. Venkata Sushma
32.	S. Manika	S. Manika
33.	D. Pavitra	D. Pavitra
34.	A. Bhavya	A. Bhavya

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35	D. Neethi	T. Nandhini
36	P. Ishara	P. Ishara
37	C. Ishara	C. Ishara
38	L. Pranitha	L. Pranitha
39	M. Kusuma	M. Kusuma
40	V. Gayatri	V. Gayatri
41	V. Chaitanya	V. Chaitanya
42	P. V. Sriniketha	P. V. Sriniketha
43	V. Pruthi	V. Pruthi
44	G. Varshitha	G. Varshitha
45	B. Susmitha	B. Susmitha
46	K. Lavanya	K. Lavanya
47	A. Priya	A. Priya
48	N. Abhinaya	N. Abhinaya
49	N. Nishma	N. Nishma
50	K. Likitha	K. Likitha
51	P. Reddy Rani	P. Reddy Rani
52	N. Sujitha	N. Sujitha
53	N. Geethika	N. Geethika
54	P. Syamala	P. Syamala
55	K. Rajini	K. Rajini
56	K. Ishanya	K. Ishanya
57	M. USHA	M. USHA
58	P. Nandhini	P. Nandhini
59	D. Mamatha	D. Mamatha
60	D. Saijaga	D. Saijaga
61	A. Sabithi	A. Sabithi
62	B. Ankitha	B. Ankitha
63	V. Lakshmi Priya	V. Lakshmi Priya
64	B. P. Prathiyasha	B. P. Prathiyasha
65	K. Thijasree	K. Thijasree
66	N. Ramya	N. Ramya
67	N. Nishila	N. Nishila
68	Mythili G	Mythili G
69	Aishwarya K	Aishwarya K
70	G. Sai yashika	G. Sai yashika
71	Sravani G.	Sravani G.
72	G. Pavana	G. Pavana
73	D. Revathi	D. Revathi


  
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74	K. Pralynsha	K. Pralynsha
75	E. Chandrakala	E. Chandrakala
76	D. Pavitra	D. Pavitra
77	J. Parvathi	J. Parvathi
78	E. Kanya Sree	E. Kanya Sree
79	K. Tejasvi	K. Tejasvi
80	T. Rakshitha	T. Rakshitha
81	B. Parvathy	B. Parvathy
82	N. Nalini	N. Nalini
83	T. Jashna	T. Jashna
84	G. Sireesha	G. Sireesha
85	N. Nandini	N. Nandini
86	G. Sesikala	G. Sesikala
87	M. Vani	M. Vani
89	G. Monika	G. Monika
90	B. Deepika	B. Deepika
91	K. Dhara Sree	K. Dhara Sree
92	P. Himaja	P. Himaja
93	K. Keerthi	K. Keerthi
94	A. Shrusanya	A. Shrusanya
95	G. Nandini	G. Nandini
96	S. Vaishnavi	S. Vaishnavi
97	N. Bhavyasri	N. Bhavyasri
98	D. Sarani	D. Sarani
99	T. Pranitha	T. Pranitha
100	M. Kusuma	M. Kusuma
101	A. Sahithi	A. Sahithi
102	A. Bhavya	A. Bhavya
103	A. Sneha	A. Sneha
104	B. Ankitha	B. Ankitha
105	B. Pavani	B. Pavani
106	D. Keerthi	D. Keerthi
107	C. Lahari	C. Lahari
108	CH. Deepthi	CH. Deepthi
109	S. Priya	S. Priya
110	R. Kavya	R. Kavya
111	M. Sneha	M. Sneha
112	Meghana	Meghana
113	R. Kausari	R. Kausari



114	T. Sahasra Varma	T. Sahasra Varma
115	B.P. Parathyusha	B.P. Parathyusha
116	CH. Arthana	CH. Arthana
117	M. Chandrika	M. Chandrika
118	G. Vandana	G. Vandana
119	Sravana Sandhya	Sandhya
120	B. Anuritha	Anuritha
121	Sai Mahitha	Sai
122	Ch. Anvini	Ch. Anvini
123	A. Charitha	A. Charitha
124	K. Ishanya	K. Ishanya
125	K. Hanika	K. Hanika
126	M. Pavan	M. Pavan
127	N. Mamatha	N. Mamatha
128	H. Sireesha	H. Sireesha
129	K. Monika	Kala Manjula
130	K. Bhavani Sri	K. Bhavani Sri
131	M. Sravanthi	M. Sravanthi
132	K. Breeti	K. Breeti
133	P. Varshini	P. Varshini
134	K. Preetika	K. Preetika
135	P. Lalitha	P. Lalitha

  
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**Date: 25-03-2023.**

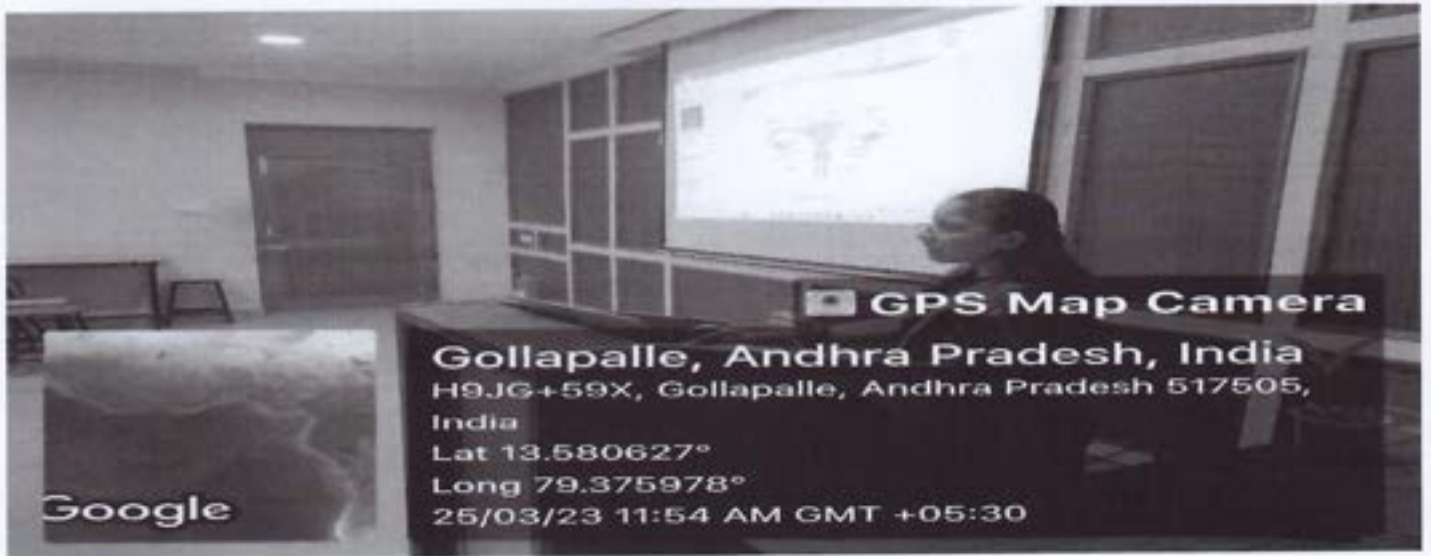
## **CERTIFICATE OF APPRECIATION**

We sincerely thank **Dr. T. THANUJA**, Obstetrician & Gynecologist for delivering a lecture on '**Health and Menstrual Hygiene**', organized on 25-03-2023 by Women Empowerment cell.

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India  
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GPS Map Camera

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Long 79.375978°  
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SEAGI/PERMISSION/WOMEN EMPOWERMENT /2023

Date:01-04-2023

**PERMISSION LETTER**

To  
The Principal,  
SEAGI, Tirupati.


Sir,

**Sub: Permission for Conducting an Awareness program on 'Women Rights' – Reg.**

With reference to the subject cited above, **Women Empowerment Cell** intends to conduct a guest lecture titled "**An Awareness program on Women Rights**" for the girl students and Women faculty of the college on **06-04-2023**. The speaker of this program is **Mrs.N Pavithra M.L., M.Tech** who has profound knowledge on this topic.

Therefore, I request you to kindly grant us permission to make the necessary arrangements and conduct the program successfully.

Thanking you sir,

  
**PRINCIPAL**  
Siddhartha Educational Acadr  
Group of Institutions  
Near C.GOLLAPALLI, Tirupati (R)-517 505  
Tirupati Dist. (A.P.)

Yours Sincerely  
  
**CONVENER**  
**[WOMEN EMPOWERMENT CELL]**



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SEAGI/CIR/WOMEN EMPOWERMENT /2023

Date: 02-04-2023

**CIRCULAR**

This is to inform the girl students and Women faculty of all the branches that a guest lecture is going to be organised on the topic “**Women Rights**” which is scheduled on **06-04-2023**.

Therefore, the students are encouraged to attend the program without fail on the stipulated date.

  
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Tirupati Dist. (A.P.)

  
**CONVENER**  
**[WOMEN EMPOWERMENT CELL]**

**Copy to:**

1. The Committee members
2. The Notice Board
3. The File





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SEAGI/CIR/ COMMITTEE MEMBERS /2023

Date: 01-04-2023.

**CIRCULAR**

It is to inform the members of Women empowerment cell that the meeting will be held at 11am in the Board room on 01-04-2023 to discuss the following agenda .Therefore, all the members of the committee are requested to attend the meeting compulsorily.

Agenda of Meeting:

Conduct of an Awareness program on 'Women Rights'.

S.NO	NAME OF THE FACULTY	DEPARTMENT	SIGNATURE
1	Dr.V.K.Madhusmitha Rani	H&S	
2	Mrs.N.Pavithra	ECE	
3	Mrs.V.Priyanka Reddy	CIVIL	
4	Mrs.G.Kavitha	EEE	
5	Mrs.P.Sneha	MECH	
6	Mrs.G.Swetha	ECE	
7	Mrs.K.Jaya Deepthi	CSE	
8	Mrs.D.Pushpalatha	CSE	
9	Mrs.M.B.Jyothi	MBA	
10	Ms.D.Rizwana	ECE	
11	Ms.P.B.Nandhini	EEE	
12	Ms.D.Tejaswi	CIVIL	
13	Ms.A.Indhu	CSE	
14	Ms.N.Supraja	H&S	
15	Ms.B.Jayasudha	MBA	

**Copy to:**

- 1.The Principal
- 2.All the members of committee
- 3.The file

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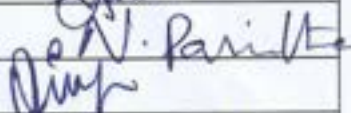
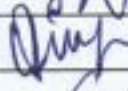


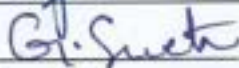

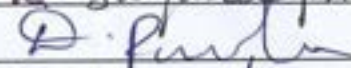
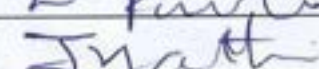
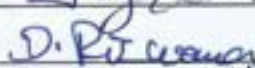
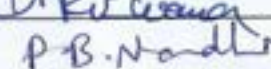
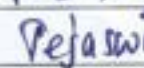
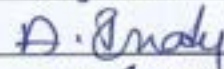
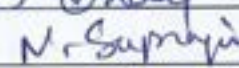

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CONVENER

[ WOMEN EMPOWERMENT CELL ]

## Minutes of Meeting

1. Resolved to conduct an Awareness program on 'Women Rights' on 06-04-2023.
2. Resolved to invite a Guest speaker N Pavithra M.L., M.Tech.
3. Resolved to invite the girl students of all branches and women faculty.

S.NO	NAME OF THE FACULTY	DEPARTMENT	SIGNATURE
1	Dr.V.K.Madhusmitha Rani	H&S	
2	Mrs.N.Pavithra	ECE	
3	Mrs.V.Priyanka Reddy	CIVIL	
4	Mrs.G.Kavitha	EEE	
5	Mrs.P.Sneha	MECH	
6	Mrs.G.Swetha	ECE	
7	Mrs.K.Jaya Deepthi	CSE	
8	Mrs.D.Pushpalatha	CSE	
9	Mrs.M.B.Jyothi	MBA	
10	Ms.D.Rizwana	ECE	
11	Ms.P.B.Nandhini	EEE	
12	Ms.D.Tejaswi	CIVIL	
13	Ms.A.Indhu	CSE	
14	Ms.N.Supraja	H&S	
15	Ms.B.Jayasudha	MBA	

  
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DATE: 01.04.2023

**INVITATION LETTER**

To

**N.Pavithra, M.L., M.Tech**  
Assistant professor  
Department of ECE  
SEAGI

Madam,

Sub: Letter of invitation for conducting a guest lecture on “**Women Rights**”- Reg

We would like to invite you to be the guest speaker for an “**Awareness program on Women Rights**” which is scheduled on **06-04-2023**, to enlighten our students and womenfaculty.

In this regard, we request you to accept our invitation and deliver your valuable information.

Thanking you

**PRINCIPAL**  
Siddhartha Educational Academy  
Group of Institutions  
Near C.GOLLAPALLI, Tirupati (R)-517 505  
Tirupati Dist. (A.P.)

Yours Sincerely,

**CONVENER**

**[Women Empowerment Cell]**



6.4.23


Women Rights *Ma N. Parvatha Malu*  
**WOMEN EMPOWERMENT**

Sl No	Name of the student	Signature of the Student
1.	N. Sujitha	N. Sujitha
2.	M. Pavani	M. Pavani
3.	N. Nikhila	N. Nikhila
4.	N. Kavva Sree	N. Kavva Sree
5.	P. Vashtini	P. Vashtini
6.	P. Devallika	P. Devallika
7.	P. Reddy Rani	P. Reddy Rani
8.	P. Lalitha	P. Lalitha
9.	N. Rama	N. Rama
10.	P. Syamala	P. Syamala
11.	P. Himaja	P. Himaja
12.	A. Keerthi	A. Keerthi
13.	D. Manjatha	D. Manjatha
14.	D. Sibhi	D. Sibhi
15.	M. USHA	M. USHA
16.	N. BHAVYA SBI	N. BHAVYA SBI
17.	G. Nandini	G. Nandini
18.	A. Shwanya	A. Shwanya
19.	D. Savani	D. Savani
20.	P. V. Sai Nikitha	P. V. Sai Nikitha
21.	G. Haripriya	G. Haripriya
22.	C. Bhavani	C. Bhavani
23.	R. Bhavani	R. Bhavani
24.	K. Dhara Sree	K. Dhara Sree
25.	D. Sandhya	D. Sandhya
26.	B. Deepika	B. Deepika
27.	M. Kusuma	M. Kusuma
28.	T. Pranitha	T. Pranitha
29.	K. Harika	K. Harika
30.	S. Chandrika	S. Chandrika
31.	S. Kavayabai	S. Kavayabai
32.	P. Chandana	P. Chandana
33.	T. Deepika	T. Deepika
34.	P. Manikanta	P. Manikanta

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35.	T. MONIKA	T. Monika
36	Tejasri - M	<del>Tejasri</del>
37	S. Vaisnavi	S. Vaisnavi
37.	S. Gousiya	S. Gousiya
38	V. Gayathri	V. Gayathri
39.	V. Chatura	Chatura
40.	V. L. Sumanjali	V. Sumanjali
41.	V. Geeshma	V. Geeshma
42.	R. Harishitha	R. Harishitha
43	P. Deepthi	P. Deepthi
44.	R. Rachana	R. Rachana
45.	V. Ashwini	V. Ashwini
46.	T. Saikeerthi	T. Saikeerthi
47	S. Mounika	S. Mounika
48.	M. Sravanthi	M. Sravanthi
49	H. Sireesha	H. Sireesha
50	K. Rajini	K. Rajini
51	K. Bhavya	K. Bhavya
52	K. Preethika	K. Preethika
53	K. Mounika	K. Mounika
54.	K. Bharu Sri	K. Bharu Sri
55	K. Tejassri	K. Tejassri
56	D. Pavitra	D. Pavitra
57	J. Praveena	J. Praveena
58.	E. Kavya See.	E. See
59	K. Ashwarya	<del>K. Ashwarya</del>
60	G. Sravani	G. Sravani
61	G. Yoshitha	G. Yoshitha
62	K. Prathyusha	K. Prathyusha
63	G. Parvathi	G. Parvathi
64	Mythili G	Mythili G
65	B. V. Sai Mahitha	B. V. Sai Mahitha
66	A. Sahithi	A. Sahithi
67	A. Bhavya	A. Bhavya
68	B. Harishitha	B. Harishitha
69	C. Labarri	C. Labarri
70	C. H. Deepthi	C. H. Deepthi
71.	A. Bhargavi	A. Bhargavi
72	B. Parvathi	B. Parvathi

  
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74.	Ch. Aswini	Ch. Aswini
75.	B. Anantha	B. Anantha
76.	Ch. Archana	Ch. Archana
77.	B.P. Prathyusha	B.P. Prathyusha
78.	A. Charitha	A. Charitha
79.	N. Jyothsna	N. Jyothsna
80.	S. Hema Priya	S. Hemapriya
81.	T. Pooornima	T. Pooornima
82.	T. Kousalya	T. Kousalya
83.	Y. Vinaya	Y. Vinaya
84.	T. Reshma	T. Reshma
85.	G. Monisha	G. Monisha
86.	M.R. Susmitha	M.R. Susmitha
87.	G. Tejasni	G. Tejasni
88.	Y. Haritha	Y. Haritha
89.	N. Supriya	N. Supriya
90.	K. Yamini	K. Yamini
91.	K. Lavanya	K. Lavanya
92.	S. Deekshitha	S. Deekshitha
93.	K. Likhita	K. Likhita
94.	U. Keerthi	U. Keerthi
95.	G. Varshitha	G. Varshitha
96.	CH. Divya Sahithi	CH. Divya Sahithi
97.	N. Nishma	N. Nishma
98.	N. Abhinaya Jyothi	N. Abhinaya Jyothi
99.	K. Thejasree	K. Thejasree
100.	V. Lakshmi Priya	V. Lakshmi Priya
101.	C. Priya	C. Priya
102.	C. Divya Sahithi	C. Divya Sahithi
103.	A. Priya	A. Priya
104.	B. Susmitha	B. Susmitha
105.	A. Gayathri	A. Gayathri
106.	C. Saravana Sandhya	C. Saravana Sandhya
107.	D. Keerthi	D. Keerthi
108.	G. Chandrakala	G. Chandrakala
109.	B. Pavani	B. Pavani
110.	D. Revathi	D. Revathi
111.	K. Karishma	K. Karishma



112.	V. Sai Lakshmi	V. Sai Lakshmi
113.	S. Gowriya	S. Gowriya
114.	N. Teja Shee	N. Teja Shee
115.	M. Sunitha	M. Sunitha
116.	T. Likhitha	T. Likhitha
117.	K. Triveni	K. Triveni
118.	M. Chandhi Priya	M. Chandhi Priya
119.	P. Vyshnavi	P. Vyshnavi
120.	S. Bhargavi	S. Bhargavi
121.	P. Sravya	P. Sravya
122.	T. Safali	T. Safali
123.	K. Praveena	K. Praveena
124.	T. Bhavya	T. Bhavya
125.	V. Bhavani	V. Bhavani
126.	D. Rizwana	Rizwana
127.	B. Jyothika	Jyothika
128.	G. Sounthanya	<del>Sounthanya</del>
129.	P. Uma Maheswari	P. Umamaheswari
130.	K. Osupamma.	K. Osupamma.
131.	N. Poojitha	N. Poojitha
132.	S. Thulasi	S. Thulasi
133.	B. Swapna	B. Swapna
134.	M. Bhargavi	M. Bhargavi
135.	V. Srividhya	V. Srividhya
136.	P. Priya	P. Priya
137.	M. Akshaya	M. Akshaya
138.	A. Deepika	A. Deepika
139.	K. Charithra	K. Charithra
140.	M. Yamini	M. Yamini
141.	G. Lalitha	G. Lalitha
142.	N. Rajeswari	N. Rajeswari
142.	Lakshmi Sujatha	Lakshmi Sujatha



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06-04-2023.

## **CERTIFICATE OF APPRECIATION**

We sincerely thank **Mrs. N Pavithra M.L., M.tech**, for delivering a lecture on '**Women Rights**' organized on 06-04-2023 by Women Empowerment cell.

**PRINCIPAL**  
**PRINCIPAL**

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Tirupati Dist. (A.P.)





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 Long 79.3759°  
 06/04/23 11:44 AM GMT +05:30



GPS Map Camera

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GPS Map Camera

Gollapalle, Andhra Pradesh, India  
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 Long 79.375902°  
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*S. S. Srinivas*

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 Tirupati



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**WEC/PERMISSION/ADD ON PROGRAME/FEB/2023**

**Date: 10/02/2023**

**To**

The Principal,  
SEAGI, Tirupati.

**From**

The COORDINATOR,  
WOMEN EMPOWERMENT CELL,  
SEAGI, Tirupati.


Respected Sir,

**Sub: Permission for Conducting an Add on Programme – Reg.**

With reference to the above subject, our department intends to conduct an add-on course titled “POSH ACT-2013” for women (students and faculty) with duration of One month from 13/02/23 to 25/03/23. The speaker of this course is Dr. Madhusmitha Rani, who has profound knowledge on this topic. This course benefits our students a lot.

Therefore, I request you to kindly grant us permission to make the necessary arrangements and conduct the course successfully.

Thanking you sir,

  
**PRINCIPAL**  
Siddhartha Educational Academy  
Group of Institutions  
Near C.GOLLAPALLI, Tirupati (R)-517 505  
Tirupati Dist. (A.P.)

Yours Sincerely,

  
**CONVENER**

**[Women Empowerment Cell]**





**SIDDARTHA EDUCATIONAL ACADEMY GROUP OF INSTITUTIONS**

(Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapur)

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Phone: 8008202337, 9966700414

College e-mail ID: [siddarthaedu@gmail.com](mailto:siddarthaedu@gmail.com) website: [siddarthaedu.in](http://siddarthaedu.in)

**CIRCULAR**

Date: 10/02/23

This is to inform that Women Empowerment Cell is Organizing an Add On Programme "POSH ACT-2013" in Gender Equality by Dr.Madhusmitha Rani from 13/02/23 to 25/03/23 in the academic year(2022-23).

**Overview of the programme:**

There is a need for special laws when a person, a group, or a section of society commits acts that are detrimental to another person, group, or section of society, and the present social system is inadequate in stopping such acts. Such situations require laws, which are implemented and enforced through the state apparatus, in order to serve as a deterrent through fines, sentences, or damages, etc. Thus, it became imperative to enforce the present Act as women joined the workforce in increasing numbers and faced new challenges in the workplace.

Any statute can be understood and interpreted by reading their introductions and 'Statements of Objects and Reasons', which elaborate on the rationales that led to the introduction of the statute. Specifically, the Statement of Objects and Reasons of this Act states that sexual harassment violates women's fundamental rights to equality, life, and liberty, as provided under Articles 14 and 15 of the Constitution of India, as well as their right to life and dignity under Article 21 of the Constitution. It is also important to note that sexual harassment can also be considered a violation of people's right to practice any profession or to carry on any occupation, trade, or business, which includes the right to be free from sexual harassment in their workplace.

Furthermore, this legislation contains provisions that protect all women regardless of employment status. Additionally, the Statement of Objects and Reasons acknowledges that the Supreme Court has provided guidelines to address this issue until appropriate legislation is enacted.

  
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**Copy to**

**[Women Empowerment Cell]**

- 1.Chairman
- 2.Principal
- 3.Class in Charge
4. Notice Board



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## **SYLLABUS OF ADD ON PROGRAMME**

### **Overview of POSH ACT-2013:**

The majority of the global population is made up of women, but they are placed in a variety of disadvantageous positions due to gender differences and biases. They have suffered violence and exploitation from male-dominated societies. Since time immemorial, women have been exploited in India on a social, economic, physical, psychological, and sexual level, sometimes under the pretext of religious guidance, sometimes under the pretext of scripture, and sometimes based on social convention. Before the Indian Constitution was enacted, the concept of gender equality was almost unknown to us.

On 26th June, 1975, Indira Gandhi, then Prime Minister of India, addressed the United Nations Women's Conference in Mexico and said that women's lower status and fewer opportunities hindered the development of the human race. It is clear from this generalization that their emancipation is essential and that better facilities need to be made available to enable their full growth and development. The 20th century marked the beginning of women asserting their rights. Their participation in nation-building is a necessary part of ascertaining their rights. Having economic independence will accelerate the emancipation of women and enhance their status. In India, women are entering the formal labor workforce in unprecedented numbers. The rights of women, especially in the workplace, are more critical than ever before in light of this development. 'Right to Work' includes protections against sexual harassment at work.

The sexual harassment of women in the workplace is a form of gender-based violence. Besides violating their self-esteem, dignity, and self-respect, it also violates their constitutional and human rights. The issue of sexual harassment in the workplace cannot be viewed as a recent phenomenon, but it has certainly been brought to light by fast-changing workplace equations. In India, the legislation regarding this is the Sexual Harassment of Women at Work Place (Prevention, Prohibition and Redressal) Act, 2013 (POSH Act). As a result of the Act, women are protected at work from sexual harassment. Furthermore, it provides for preventing and redressing complaints of sexual harassment. This article provides a comprehensive overview of this Act.

### **Course Objectives:**



- This Act was created to ensure that workplaces remain free from sexual harassment and to provide a safe and secure environment for women.
- It also seeks to create awareness about the issue of sexual harassment and to provide the necessary legal remedies for victims.

### **Course Outcomes**

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

- Provision ensuring gender sensitization .
- Preventive action on sexual harassment at the work place.
- Complaining procedure when aggrieved.
- Punishment and compensation.
- Period within which complaint has to be Registered.

### **Topics**

#### **Module-1**

History, vishaka guidelines, definitions, posh act, SHE-BOX.

#### **Module-2**

Complaint Mechanism, Interim Relief, punishment and compensation, confidentiality, Role of organization in prevention of sexual harassment, consequences of non-compliance.



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**POSH ACT-2013**

The class, venue, timing of classes and class schedule along with topics and syllabus covered details are detailed below:

**Venue of Class:** SEMINAR HALL, Ground floor

**Class:** Every day, 04:00PM to 05:00 PM

**Course Schedule:**

Weeks	DATE	Topic Name	Timings
1	13/02/23	HISTORY	04:00PM to 05:00 PM
	14/02/23	VISHAKA GUIDELINES	
	16/02/23	VISHAKA GUIDELINES	
	17/02/23	VISHAKA GUIDELINES	
	18/02/23	VISHAKA GUIDELINES	
2	20/02/23	DEFINITIONS	04:00PM to 05:00 PM
	21/02/23	POSH ACT	
	22/02/23	POSH ACT	
	23/02/23	POSH ACT	
	24/02/23	SHE BOX	
3	25/02/23	COMPLAINT MECHANISM	04:00PM to 05:00 PM
	27/02/23	INTERIMM RELIEF	
	28/02/23	PUNISHMENT	
	01/03/23	COMPENSATION	
	03/03/23	CONFIDENTIALITY	
4	04/03/23	ROLE OF ORGANIZATION	04:00PM to 05:00 PM
	09/03/23	CONSEQUENCES OF NONCOMPLIANCE	
	13/03/23	CONSEQUENCES OF NONCOMPLIANCE	
5	18/03/23	REVISION	04:00PM to 05:00 PM
6	20/03/23	REVISION	
7	21/03/23	DIAGNOSIS TEST	
8	25/03/23	TEST RESULT	

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**AVALUE ADDED COURSE  
ON  
POSH ACT-13**

**REGISTERED STUDENTS**

S.NO	ROLL NO.	NAME OF THE PARTICIPANT	SIGNATURE
1	219L1A0201	ANDERI PAVANI *	A. Pavani
2	219L1A0212	NARAYANA ROOPA VENNILA *	N. Roopavennila
3	219L1A0214	PUNGUTHURU RAJYA LAKSHMI *	Lakshmi
4	219L1A0217	VELLAMMA YASHASWINI SREE *	Yashaswini
5	219L1A0102	PASALA UMAMAHESWARI	P. Umamaheswari
6	219L1A0402	ARAGONDA SHAKEELA *	A. Shakeela
7	219L1A0404	B BHARATHI	B. Bharathi
8	219L1A0406	BACHALA SAILAJA	B. Sailaja
9	219L1A0409	BASI REDDY SHIREESHA	B. Shireesha
10	219L1A0412	BATTE LOHITHA	B. Lohitha
11	219L1A0413	BIJIVEMULA SUSHMA	B. Sushma
12	219L1A0414	BODI REDDY DRAKSHAYANI	B. Drakshayani
13	219L1A0423	BYSANIPOLAI AHGARI SIREESHA	B. Sireesha
14	219L1A0425	CHIDDAPA REDDY BHARGAVI	C. Bhargavi
15	219L1A0427	CHINTHAPUDI SIREESHA	Ch. Sireesha
16	219L1A0429	CHITIKI HARINI	C. Harini
17	219L1A0430	DAKSHAYANI ESHA REDDY	D. Esha
18	219L1A0435	GANESHAM PRAVALLIKA	G. Pravallika
19	219L1A0443	JAVVAJI MOUNIKA	J. Mounika



20	219L1A0447	KAMJULA INDHU PRIYA	K. Indhu priya
21	219L1A0448	KANCHAM YASWITHA REDDY	K. Yaswitha
22	219L1A0450	KATARU SIREESHA	K. sireesha
23	219L1A0451	KETHAM REDDIVARI ANKITHA *	K. Ankitha
24	219L1A0452	KOVURI CHARISHMA REDDY	K. charishma Reddy
25	219L1A0459	MALLAVARAM MANEESHA	M. maneeshha
26	219L1A0460	MALLENI PALLAVI	M. pallavi
27	219L1A0462	MASIREDDY POOJITHA *	Poojitha
28	219L1A0469	NOUDURI SRI VENKATA NAGA LAKSHMI PAVANI	N. pavani
29	219L1A0472	OTIKUNTA SIVALAKSHMI	O. sivalakshmi
30	219L1A0473	PAIDI JYOTHI	P. jyothi
31	219L1A0475	PERAM LAVANYA	Lavanya
32	219L1A0478	PIDATHALA LAKSHMI PRAVANJANA	P. pravanjana
33	219L1A0489	REPANA LALITHA RANI	R. lalitha rani
34	219L1A0491	REVURU BHUVANESWARI	B. buvaneswari
35	219L1A0496	THANATI DEVIKA	T. devika
36	219L1A0498	THUNGA LAKSHMI PRASANNA	T. lakshmi prasanna
37	219L1A0499	TIRUTTANI SANDHYA	T. sandhya
38	219L1A04A0	VALLURU KAVYANJALI	V. kavyanjali
39	219L1A04A2	VENNAM MAHESHWARI	v. maheshwari
40	219L1A0501	A SOWMYA	A. sowmya
41	219L1A0503	ALIVELI JOSHNA	A. joshna
42	219L1A0504	ANANTHANENI YASASWINI	A. yasaswini
43	219L1A0505	APPANA MAMATHA	Mamatha
44	219L1A0506	AVULA DEEPTHI	A. Deepthi
45	219L1A0507	B KEERTHAN *	Keerthi
46	219L1A0512	CETTY SHALINI	C. shalini
47	219L1A0515	CHINTAM SRI SINDHU	C. Srisindhu
48	219L1A0519	CHOPPA ABITHA	C. abitha
49	219L1A0522	DUVVURU KEERTHANA	D. Keerthana
50	219L1A0533	JETHIPATTI TEJESWARI	J. Tejeswari



51	219L1A0534	JONNAGADDALA TEJESWINI	<del>Tej</del>
52	219L1A0536	K MADHURI	K. Madhuri
53	219L1A0539	KAMBHAM SUMITHRA	<del>K. Sumithra</del>
54	219L1A0541	KANAPARTHI KEERTHI	K. Keerthi
55	219L1A0542	KANDALA YAMUNA	K. Yamuna..
56	219L1A0543	KANDATI UDAYA SANDHYA	K. Udaya sandhya
57	219L1A0544	KARVETI REVATHI *	M. Revathi
58	219L1A0545	KAVANURU SUPRIYA	K. Supriya
59	219L1A0547	KODAVATI KUSUMA PRIYA	K. Kusuma
60	219L1A0552	KONDAPALLE AKSHAYA	K. Akshaya
61	219L1A0554	KOONAPALLI PAVITHRA	<del>K. Pavithra</del>
62	219L1A0557	M LIKITHA	(M) Likitha
63	219L1A0558	M MONIKA	M. Monika
64	219L1A0560	M SUCHARITHA	M. Sucharita
65	219L1A0562	MADITHATI NIHARIKA	M. Niharika.
66	219L1A0564	MADITHATI VINOOTHNA	M. Vitha
67	219L1A0565	MAHENDRA YOGANANDHINI *	M. Nandhini
68	219L1A0575	NAGIREDDY SANJANA	N. Sanjana
69	219L1A0582	PALLALA VANI	P. Vani
70	219L1A0585	PASUVULA NAVYA	P. Navya.
71	219L1A0586	PATAN ASMA	<del>A. Asma</del>
72	219L1A0587	PATNAM ANSHU	P. Anshu
73	219L1A0591	PONNA DILLI RANI	P. Dilli Rani
74	219L1A0592	PULICHERLA NANDHINI	P. Nandhini
75	219L1A0593	RAMAGIRI AMANI	<del>R. Amani</del>
76	219L1A05A1	SUNAKANTI JYOTHSNA	S. Jyothsna
77	219L1A05A2	TAMATAM PRASANTHI *	T. Prasanthi
78	219L1A05A3	THALLA NANDINI	T. Nandini
79	219L1A05A4	THATHI REDDY NANDINI *	T. Nandini
80	219L1A05A6	UPPUTURU VIMALA	Vimala
81	219L1A05A7	VADDI ANUSHA	V. Anusha



82	219L1A0580	VLASALA INDHU	<i>Indhu</i>
83	229L1A0301	BANDI DEEPIKA *	<i>Deepu</i>
84	229L1A0404	ALLAM GAYATHRI	<i>A. Gayathri</i>
85	229L1A0406	ANGEREDDY PRIYA	<i>A. Priya</i>
86	229L1A0408	BANDARU SUSMITHA	<i>B. Susmitha</i>
87	229L1A0412	CHADALAWADA DIVYA SAHITHI	<i>C. Divya</i>
88	229L1A0415	CHINTHAKUNTA PRIYA	<i>C. Priya</i>
89	229L1A0422	GUDURU VARSHITHA	<i>G. Varshitha</i>
90	229L1A0423	K LIKHITA	<i>K. Likhita</i>
91	229L1A0426	KANTINENI LAVANYA *	<i>K. Lavanya</i>
92	229L1A0431	KONERU YAMINI	<i>K. Yamini</i>
93	229L1A0442	NAGI REDDY ABHINAYA JYOTHI	<i>N. Abhinaya</i>
94	229L1A0443	NAGURU NISHMA	<i>N. Nishma</i>
95	229L1A0446	NEELAM SUPRAJA	<i>N. Supraja</i>
96	229L1A0450	SARPUR DEEKSHITHA	<i>S. Deekshitha</i>
97	229L1A0453	UTUKURU KEERTHI	<i>U. Keerthi</i>
98	229L1A0456	VEERISSETTY LAKSHMI PRIYA	<i>V. Lakshmi Priya</i>
99	229L1A0502	AKKI SAHITHI REDDY	<i>Akki Sahithi Reddy</i>
100	229L1A0503	ALLAMADUGU SNEHA *	<i>A. Sneha</i>
101	229L1A0505	ANGAJALA CHARITHA	<i>Charitha Angajala</i>
102	229L1A0507	ARIKELA BHARGAVI	<i>Bhargavi</i>
103	229L1A0508	ATUKURI BHAVYA SREE	<i>Bhavya</i>
104	229L1A0510	B PAVANI	<i>B. Pavani</i>
105	229L1A0511	BACHALA PALLAVI	<i>B. Pallavi</i>
106	229L1A0516	BESTA ANKITHA	<i>B. Ankitha</i>
107	229L1A0519	BHUMIREDDY VENKATA SAI MAHITHA	<i>Sai</i>
108	229L1A0521	BISSAIAHGARI PADIGIREDDIGARI PRATHYUSHA	<i>B.P. Prathyusha</i>
109	229L1A0523	BUCHUPALLE HARSHITHA	<i>B. Harshitha</i>
110	229L1A0525	CHAKRAVARTHULA LAHARI	<i>Lahari</i>
111	229L1A0526	CHALLA SRAVANA SANDHYA	<i>C. Sravana Sandhya</i>
112	229L1A0527	CHANDRA DEEPTHI	<i>Ch. Deepthi</i>



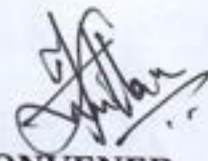
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114	229L1A0530	CHILLAKURU ARCHANA	Ch-Archana
115	229L1A0534	DAMAM KEERTHI	D-Keerthi
116	229L1A0535	DASARI REVATHI	D-Revathi
117	229L1A0538	DODLA PAVITRA	D-Pavitra
118	229L1A0542	EDDULA KAVYA SREE	Kavyasree
119	229L1A0543	ESUKAMATLA CHANDRAKALA	Chandra
120	229L1A0544	GANGA PAVANI	G-Pavani
121	229L1A0545	GODINA SAI YOSHITHA	G-Saiyoshitha
122	229L1A0546	GORLA SRAVANI	G-Sravani
123	229L1A0548	GUJJULA GANGA MYTHILI	Mythili G
124	229L1A0550	JANGAM PRAVALLIKA *	J-Pravallika
125	229L1A0551	K AISHWARYA	K-Aishwarya
126	229L1A0553	K PRATHYUSHA	K-Prathyusha
127	229L1A0559	KAKI TEJASRI	K-Teja
128	229L1A0568	KARGI PREETHI	Preethi
129	229L1A0569	KARINGALI PREETHIKA	Preethika
130	229L1A0570	KARNAM BHAVYA	K-Bhavya
131	229L1A0571	KARRI BHANU SRI	K-Bhanu Sri
132	229L1A0576	KOLA MOUNIKA	K-Mounika
133	229L1A0577	KOLARU HARIKA	K-Harika
134	229L1A0580	KONEPALLI RAJINI	K-Rajini
135	229L1A0587	MAKATI SRAVANTHI *	M-sravanthi
136	229L1A0590	MANKU SIREESHA	H-sireesha
137	229L1A0591	MANUBOLU INDHU *	Indhu
138	229L1A0594	MUDDAMGALA PAVANI *	M-Pavani
139	229L1A0598	NANDA KUMAR MAMATHA	N-Mamatha
140	229L1A0599	NANDANOORU GOPIKA	N-Gopika
141	229L1A05A0	NANDARAPU SUJITHA	N-Sujitha
142	229L1A05A1	NANNURU RAMYA	N-Ramya
143	229L1A05A2	NARAGANTI KAVYA SREE	N-Kavyasree
144	229L1A05A5	NASNURI NIKHILA *	Nikhila



145	229L1A05B2	PALAKOLANU VARSHINI	Varshini
146	229L1A05B6	PANABAKAM SYAMALA *	P. Syamala
147	229L1A05B7	PATHIPATI PRAVALLIKA	P. Pravallika
148	229L1A05B9	PEDDAIAHGARLA REDDY RANI	P. Reddy Rani
149	229L1A05C0	PEDDAKOTLA LALITHA	P. Lalitha
150	229L1A05C2	PEDDINTTIGARI CHANDANA	P. Chandana
151	229L1A05C5	POTUGARI MOUNIKA *	P. Mounika
152	229L1A05C7	PUTHA DEEPTHI	P. Deepthi
153	229L1A05C9	R LAHARI	R. Lahari
154	229L1A05D1	RAMI REDDY GARI HARSHITHA	R. Harshitha
155	229L1A05D2	RAMPATI RACHANA *	R. Rachana
156	229L1A05D4	S MOUNIKA	S. Mounika
157	229L1A05D5	SALANKI KAVYABAI	S. Kavyabai
158	229L1A05D6	SANGATI CHANDRIKA	S. Chandrika
159	229L1A05D7	SETTIPALLI VAISHNAVI *	Vaishna
160	229L1A05D9	SHAIK GOUSIYA *	S. Gousiya
161	229L1A05E3	TALLA SAI KEERTHI	T. Saikeerthi
162	229L1A05E4	TANGASALA MONIKA	T. Monika
163	229L1A05E5	TEJASRI M *	T. Tejasri
164	229L1A05E6	THALARI DEEPIKA *	T. Deepika
165	229L1A05E9	THUPAAKULA GANGA DEVI	T. Ganga devi
166	229L1A05F5	VADAKUPETA BANUSRI	V. Banusri
167	229L1A05F7	VAKKAKU ARCHANA	V. Archana
168	229L1A05F8	VALIGLAMA GREESHMA *	G. Greeshma
169	229L1A05G4	VEPAMBATTU GAYATHRI	V. Gayathri
170	229L1A05G5	VERANAPPAGARI CHATURA *	V. Chatura
171	229L1A05G8	YARAVA LAKSHMI SUMANJALI	Y. L. Sumanjali
172	229L1A3301	ADAPALA ISHWARYA	A. Ishwarya
173	229L1A3303	ARAVA KEETHI	Keethi
174	229L1A3306	BANDI SASIKALA	B. Sasikala
175	229L1A3310	CHENGATI BHAVANA	Bhavana
176	229L1A3311	DERANGULA MAMATHA *	D. Mamatha



177	229L1A3312	DERANGULA SRAVANI	D. Sravani
178	229L1A3313	DEVARINTI SAILAJA	D. Sailaja
179	229L1A3314	DURGADA SANDHYA	D. Sandhya
180	229L1A3316	GADDAM HARI PRIYA	G. Hari Priya
181	229L1A3319	GUGGILLA NANDINI	G. Nandini
182	229L1A3321	K VENKATA SUSHMA *	K. Sushma
183	229L1A3323	KANNEMADUGU DHANA SREE	K. Dhana Sree
184	229L1A3324	KEDRI BHAVANA	K. Bhavana
185	229L1A3331	M KUSUMA *	M. Kusuma
186	229L1A3332	M PREETHI	M. Preethi
187	229L1A3333	MADDINI USHA	M. Usha
188	229L1A3336	NETTEM BHAVYA SRI	N. Bhavyasri
189	229L1A3339	PANGA HIMAJA	P. Himaja
190	229L1A3340	PERUGU NANDHINI	P. Nandhini
191	229L1A3342	PRATHIPATHI VENKATA SAI NIKITHA	P. Saikrithika
192	229L1A3343	RAMISETTY BHAVANA *	R. Bhavana
193	229L1A3346	THAMATAM PRANITHA	T. Pranitha



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**WOMEN EMPOWERMENT CELL**

**AVALUE ADDED COURSE**

**ON**

**POSH ACT-13**

**REGISTERED FACULTY**

S.NO	NAME OF THE FACULTY	DEPT.	SIGNATURE
1	Ms. K THRIVENI	BS&H	K. Thriveni
2	Mrs. S Reddypallavi	BS&H	S. P. Pallavi
3	Mrs. M. Lakshmi Prasana	BS&H	M. Lakshmi
4	Mrs. K Deepika	BS&H	K. Deepika
5	Mrs. K KUSUMA	BS&H	K. Kusuma
6	Mrs. N S DIVYA	BS&H	N. S. Divya
7	V Priyanka Reddy	CIVIL	V. Priyanka
8	C SAKILA BANU	EEE	C. Sakila
9	D DIVYA	EEE	D. Divya
10	P SNEHA	MECH	P. Sneha
11	Nelakurthi Pavitra	ECE	N. Pavitra
12	S NOWJIYA	ECE	S. Nowjiya
13	P Sandhya Rani	ECE	P. Sandhya
14	T Bhavya	CSE	T. Bhavya
15	M Latha	CSE	M. Latha
16	P LAVANYA	CSE	P. Lavanya
17	T PRAMEELA	CSE	T. Prameela
18	K SUNITHA	CSE	K. Sunitha



19	M B Jyothi	MBA	Jyothi
20	Usha Rani A	MBA	Usha
21	P Gnana Prasuna	MBA	P. Gnana Prasuna
22	K Yaraswini	MBA	K. Yaraswini
23	K HIMABINDU	MBA	Himabindu

  
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---

**Summary**

This Act was created to ensure that workplaces remain free from sexual harassment and to provide a safe and secure environment for women. It also seeks to create awareness about the issue of sexual harassment and to provide the necessary legal remedies for victim. The POSH Act was passed to safeguard women from workplace sexual harassment. Employers are required by this Act to offer female employees a secure and safe work environment. Additionally, it mandates that employers create an Internal Complaints Committee (ICC) within their business to handle sexual harassment claims.. The course covers theory only where it will create general awareness among women in work place. The POSH Act was passed to safeguard women from workplace sexual harassment. Employers are required by this Act to offer female employees a secure and safe work environment. Additionally, it mandates that employers create an Internal Complaints Committee (ICC) within their business to handle sexual harassment claims. For each topic, the course presents one example, one or two new updates in today's society

**COORDINATOR**

**Women Empowerment Cell**





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**WOMEN EMPOWERMENT CELL**

**Semester:** All semesters

**Academic year:** 2022-2023

**Batch:** I & II year students

**Name of the Add-on course:** POSH ACT-2013

**ASSESMENT SHEET OF ADD ON COURSE**

The assessment of the students is made based on the Exam which consists of multiple choice questions, after the completion of course.

**COORDINATOR**

**WOMEN EMPOWERMENT CELL**



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---

Answer the following:

1. Most vulnerable sections of society----- ( C )  
A. Women      B. Children      C.A&B      D. men
2. the LCC is mandated under -----section of resource? ( A )  
A. Section 6      B. Section 14      C. Section 8      D. Sections 1
3. Who is a Respondent? ( B )  
A. Victim      B. Accused      C. Witness      D. Audience
4. Internal committee consist of a minimum of ----members ( C )  
A. 2      B. 6      C. 4      D. 5
5. Which comes under criminal law ACT, 2013 ( D )  
A. Sexual harassment      B. Stalking      C. Voyeurism      D. all the above
6. The prevention of work place sexual harassment acts extends to the ( C )  
A. State      B. District      C. whole India      D. None
7. Under which Article the sexual harassment is a gross violation of fundamental rights provided ( D )  
A. Article 14      B. Article 19      C. Article 21      D. All the above
8. The elements under POSH Act are ( D )  
A. Prevention      B. Prohibition      C. Redressal      D. All the above
9. Vishaka Guidelines deals with ( B )  
A. Child Labour      B. Sexual harassment      C. Child marriage      D. None



10. Quid pro quo harassment occurs in the workplace when a superior or other authority figure offers or merely hints that he or she will give the employee something (a raise or a promotion) in return for that employee's satisfaction of a sexual demand. ( A )

A. True

B. False

11. The Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act, 2013 is an Indian law that aims to protect Child from child labour ( B )

A. True

B. False

12. PoSH Act," is an Indian law that aims to make workplaces safer for women by preventing, forbidding, and redressing acts of sexual harassment against them. ( A )

A. True

B. False

13. proper documentation is critical for PSH Act,2013. ( A )

A. True

B. False

14. Before filing a court complaint, you must not report the harassment to a law enforcement agency in your area. ( B )

A. True

B. False

15. SHe-box refers to Sexual Harassment Electronic Box ( A )

A. True

B. False



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06/15

2194A0217  
Answer the following:

21/03/2023

1. Most vulnerable sections of society----- (c) ✓  
A. Women      B. Children      C. A&B      D. men
2. the LCC is mandated under -----section of resource? (b) ✓  
A. Section 6      B. Section 14      C. Section 8      D. Sections 1
3. Who is a Respondent? (b) ✓  
A. Victim      B. Accused      C. Witness      D. Audience
4. Internal committee consist of a minimum of ----members (c) ✓  
A. 2      B. 6      C. 4      D. 5
5. Which comes under criminal law ACT, 2013 (d) ✓  
A. Sexual harassment      B. Stalking      C. Voyeurism      D. all the above
6. The prevention of work place sexual harassment acts extends to the (a) ✓  
A. State      B. District      C. whole India      D. Non
7. Under which Article the sexual harassment is a gross violation of fundamental rights provided (d) ✓  
A. Article 14      B. Article 19      C. Article 21      D. All the above
8. The elements under POSH Act are (d) ✓  
A. Prevention      B. Prohibition      C. Redressal      D. All the above
9. Vishaka Guidelines deals with (d) ✓  
A. Child Labour      B. Sexual harassment      C. Child marriage      D. None



10. Quid pro quo harassment occurs in the workplace when a superior or other authority figure offers or merely hints that he or she will give the employee something (a raise or a promotion) in return for that employee's satisfaction of a sexual demand. (a) ✓

A. True

B. False

11. The Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act, 2013 is an Indian law that aims to protect Child from child labour (a) ✓

A. True

B. False

12. PoSH Act," is an Indian law that aims to make workplaces safer for women by preventing, forbidding, and redressing acts of sexual harassment against them. (b) ✓

A. True

B. False

13. proper documentation is critical for PSH Act,2013. (b) ✓

A. True

B. False

14. Before filing a court complaint, you must not report the harassment to a law enforcement agency in your area. (a) ✓

A. True

B. False

15. SHe-box refers to Sexual Harassment Electronic Box (b) ✓

A. True

B. False



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College e-mail ID: [siddarthaedu@gmail.com](mailto:siddarthaedu@gmail.com), website: [siddarthaedu.in](http://siddarthaedu.in)

229LIA05C0  
Answer the following:

date: 21/03/2023

11/15

1. Most vulnerable sections of society----- ( C ) ✓  
A. Women      B. Children      C. A&B      D. men
2. the LCC is mandated under -----section of resource? ( D ) ✓  
A. Section 6      B. Section 14      C. Section 8      D. Sections 1
3. Who is a Respondent? ( B ) ✓  
A. Victim      B. Accused      C. Witness      D. Audience
4. Internal committee consist of a minimum of ----members ( C ) ✓  
A. 2      B. 6      C. 4      D. 5
5. Which comes under criminal law ACT, 2013 ( D ) ✓  
A. Sexual harassment      B. Stalking      C. Voyeurism      D. all the above
6. The prevention of work place sexual harassment acts extends to the ( C ) ✓  
A. State      B. District      C. whole India      D. Non
7. Under which Article the sexual harassment is a gross violation of fundamental rights provided ( B ) ✓  
A. Article 14      B. Article 19      C. Article 21      D. All the above
8. The elements under POSH Act are ( D ) ✓  
A. Prevention      B. Prohibition      C. Redressal      D. All the above
9. Vishaka Guidelines deals with ( B ) ✓  
A. Child Labour      B. Sexual harassment      C. Child marriage      D. None



10. Quid pro quo harassment occurs in the workplace when a superior or other authority figure offers or merely hints that he or she will give the employee something (a raise or a promotion) in return for that employee's satisfaction of a sexual demand. ( B ) ✓

A. True

B. False

11. The Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act, 2013 is an Indian law that aims to protect Child from child labour ( B ) ✓

A. True

B. False

12. PoSH Act," is an Indian law that aims to make workplaces safer for women by preventing, forbidding, and redressing acts of sexual harassment against them. ( A ) ✓

A. True

B. False

13. proper documentation is critical for PSH Act,2013. ( A ) ✓

A. True

B. False

14. Before filing a court complaint, you must not report the harassment to a law enforcement agency in your area. ( B ) ✓

A. True

B. False

15. SHE-box refers to Sexual Harassment Electronic Box ( B ) ✓

A. True

B. False



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Phone: 8008202337, 9966700414

College e-mail ID: siddarthaedu@gmail.com, website: siddarthaedu.in

219LIA0539 Date: 21/03/2023  
Answer the following:

15/15

1. Most vulnerable sections of society----- (C) ✓  
A. Women      B. Children      C. A&B      D. men
2. the LCC is mandated under -----section of resource? (A) ✓  
A. Section 6      B. Section 14      C. Section 8      D. Sections 1
3. Who is a Respondent? (B) ✓  
A. Victim      B. Accused      C. Witness      D. Audience
4. Internal committee consist of a minimum of ----members (C) ✓  
A. 2      B. 6      C. 4      D. 5
5. Which comes under criminal law ACT, 2013 (D) ✓  
A. Sexual harassment      B. Stalking      C. Voyeurism      D. all the above
6. The prevention of work place sexual harassment acts extends to the (C) ✓  
A. State      B. District      C. whole India      D. Non
7. Under which Article the sexual harassment is a gross violation of fundamental rights provided (D) ✓  
A. Article 14      B. Article 19      C. Article 21      D. All the above
8. The elements under POSH Act are (D) ✓  
A. Prevention      B. Prohibition      C. Redressal      D. All the above
9. Vishaka Guidelines deals with (B) ✓  
A. Child Labour      B. Sexual harassment      C. Child marriage      D. None



10. Quid pro quo harassment occurs in the workplace when a superior or other authority figure offers or merely hints that he or she will give the employee something (a raise or a promotion) in return for that employee's satisfaction of a sexual demand. (A) ✓

A. True

B. False

11. The Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act, 2013 is an Indian law that aims to protect Child from child labour (B) ✓

A. True

B. False

12. PoSH Act," is an Indian law that aims to make workplaces safer for women by preventing, forbidding, and redressing acts of sexual harassment against them. (A) ✓

A. True

B. False

13. proper documentation is critical for PSH Act,2013. (A) ✓

A. True

B. False

14. Before filing a court complaint, you must not report the harassment to a law enforcement agency in your area. (B) ✓

A. True

B. False

15. SHe-box refers to Sexual Harassment Electronic Box (A) ✓

A. True

B. False







































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**WOMEN EMPOWERMENT CELL**

**FEEDBACK FORM**

S.NO	PARAMETERS	EXCELLENT	VERY GOOD	GOOD	AVERAGE	POOR
1	THE COURSE CONTENT DELIVERY	✓				
2	TEACHING EFFECTIVENESS	✓				
3	UNDERSTANDING THE CONCEPT		✓			
4	SYLLABUS COVERAGE	✓				
5	OVERALL PERFORMANCE		✓			
COMMENT		no comments				

  
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**WOMEN EMPOWERMENT CELL**

**FEEDBACK FORM**

S.NO	PARAMETERS	EXCELLENT	VERY GOOD	GOOD	AVERAGE	POOR
1	THE COURSE CONTENT DELIVERY		✓			
2	TEACHING EFFECTIVENESS		✓			
3	UNDERSTANDING THE CONCEPT	✓				
4	SYLLABUS COVERAGE	✓				
5	OVERALL PERFORMANCE		✓			
	COMMENT	voice is low				

  
CONVENER

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**WOMEN EMPOWERMENT CELL**

**FEEDBACK FORM**

S.NO	PARAMETERS	EXCELLENT	VERY GOOD	GOOD	AVERAGE	POOR
1	THE COURSE CONTENT DELIVERY	✓				
2	TEACHING EFFECTIVENESS		✓			
3	UNDERSTANDING THE CONCEPT	✓				
4	SYLLABUS COVERAGE	✓				
5	OVERALL PERFORMANCE	✓				
COMMENT		Nil				

  
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NEAR C.GOLLAPALLI, TIRUPATI-517505, A.P.

## Certificate of Participation

This is to certify that

**P UMA MAHESWARI (219L1A0102) of II - B. Tech**

**Participated in the Add - on course on**

**“POSH ACT-2013”**

**Conducted by Women empowerment Cell**

From 13/02/2023 to 25/03/2023

COORDINATOR

HEAD OF THE DEPARTMENT  
BASIC SCIENCES & HUMANITIES

PRINCIPAL





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**Participated in the Add - on course on  
"POSH ACT-2013"  
Conducted by Women empowerment Cell  
From 13/02/2023 to 25/03/2023**

COORDINATOR

HEAD OF THE DEPARTMENT  
BASIC SCIENCES & HUMANITIES

PRINCIPAL



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This is to certify that

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**Participated in the Add - on course on**

**“POSH ACT-2013”**

**Conducted by Women empowerment Cell**

From 13/02/2023 to 25/03/2023

COORDINATOR

HEAD OF THE DEPARTMENT  
BASIC SCIENCES & HUMANITIES

PRINCIPAL



## **2. Projects on Environment and Sustainability**



**Projects undertaken by Final Year Students relating to Environmental Issues**  
**Department of Electronics and Communication Engineering**

BATCH NO	ROLL NO	STUDENT NAME	Title of the Project	Name of the Supervisor
1	199L1A403	JYOTHIKA	IOT Based Health Monitoring System	Mrs S.ASIYA
	209L5A423	BHARGAV		
	199L1A401	PALAKONDAIAH		
	199L1A438	SOWMYA		
	199L1A421	MANIKANTA		
2	199L1A404	NAVEEN REDDY	Cultivation of Plants Under Artificial Environmental Parameters to Increase Productivity Rate	Mr K.SIVA PRASAD
	199L1A408	VEERA SIVA REDDY		
	199L1A426	SUMANTH YADAV		
	199L1A406	SUMANTH		
	199L1A425	SASI KUMAR		
3	199L1A432	YAMINI	Safety Ensuring System for Passenger Boats	Mr S. DHARANESWAR
	209L5A406	SUSHMITHA		
	199L1A413	VINAY KUMAR		
	199L1A439	THARUN KUMAR		
	199L1A434	MOHAN REDDY		
4	209L5A421	THEJA SRI	Solar Based Fast Tag Charger for Electrical Vehicles	Mr D.VIJAY KUMAR REDDY
	209L5A415	SUNITHA		
	199L1A417	PRAKASH		
	209L5A436	SNEHA		
	209L5A435	LIKITHA		
5	209L5A433	BHAVYA	Industrial Automation and Machine Control System Based On Temperature	Mrs G. SWETHA
	199L1A444	SRINIVASULU		
	199L1A460	DEEPIKA		
	199L1A456	TARAKARATHNA		
	209L5A432	PRABHAKAR		
6	199L1A415	SURENDRA	Manhole Monitoring With Fault Detection and Reporting System For Municipal Department	Mrs N.PAVITRA
	209L5A417	CHANDI PRIYA		
	209L5A418	M.THEJA		
	199L1A437	VAMSI		

  
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HOD  
Dept. of ECE  
Siddhartha Educational Academy  
Group of Institutions  
TIRUPATI - 517 505

  
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Siddhartha Educational Academy  
Group of Institutions  
Near C.GOLLAPALLI, Tirupati (R)-517  
Tirupati Dist. (A.P.)



DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING  
SIDDARTHA EDUCATIONAL ACADEMY GROUP OF INSTITUTIONS

Near C. Gollapalli, Tirupati-517505

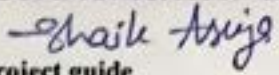


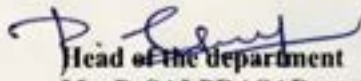
**CERTIFICATE**

This is to certify that the project report entitled "IOT BASED HEALTH MONITORING SYSTEM" is a bonafide work carried out by


O. BHARGAV REDDY	- (209L5A0423)
B. JYOTHIKA	- (199L1A0403)
M. SOWMYA	- (199L1A0438)
J. MANIKANTA	- (199L1A0421)
B. PALAKONDAIAH	- (199L1A0401)

B. Tech students of Siddhartha Educational Academy Group of Institutions, Affiliated to JNTUA, Ananthapuramu in partial fulfilment of the requirements for the award of the degree of BACHELOR OF TECHNOLOGY with the specialization in ELECTRONICS AND COMMUNICATION ENGINEERING during the Academic year 2022-2023.

  
Project guide  
Mrs. SHAIK ASIYA, M. Tech.  
Assistant Professor, Dept. of ECE,  
SEAGI, Tirupati – 517505.

  
Head of the department  
Mr. P, SAI PRASAD, M. Tech, (ph. D)  
Associate Professor, Dept. of ECE,  
SEAGI, Tirupati – 517505.

Viva-voce conducted on 5-5-2023

  
INTERNAL EXAMINER

  
EXTERNAL EXAMINER

**SIDDARTHA EDUCATIONAL ACADEMY GROUP OF INSTITUTIONS**  
**Near C. Gollapalli, Tirupati - 517 505**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**





**CERTIFICATE**

This is to certify that the project report entitled "**CULTIVATION OF PLANTS UNDER ARTIFICIAL ENVIRONMENTAL PARAMETERS TO INCREASE PRODUCTIVITY RATE**" is a bonafide work carried out by

<b>R.NAVEEN REDDY</b>	- 199L1A0404
<b>C.VEERA SIVA REDDY</b>	- 199L1A0408
<b>R.SUMANTH KUMAR REDDY</b>	- 199L1A0406
<b>K.SUMANTH YADAV</b>	- 199L1A0426
<b>K.SASI KUMAR</b>	- 199L1A0425

B. Tech students of Siddhartha Educational Academy Group of Institutions, Affiliated to JNTUA, Anantapuram in partial fulfillment of the requirements for the award of the Degree of **BACHELOR OF TECHNOLOGY** with the specialization in **ELECTRONICS AND COMMUNICATION ENGINEERING** during the Academic year 2022-2023.

  
Project Guide  
**Mr.SIVA PRASAD, M.TECH:**  
Assistant Professor,  
Department of ECE, SEAGI.

  
Head of the department  
**P. SAI PRASAD, M.Tech.(Ph.d)**  
Assistant Professor,  
Department of ECE, SEAGI.

Viva-Voice Conducted on 05/05/2023

  
INTERNAL EXAMINER

  
EXTERNAL EXAMINER





## CERTIFICATE

This is to certify that the project entitled "**SAFETY ENSURING SYSTEM FOR PASSENGER BOATS**" is a bonafide work carried out by

M.Yamini	199L1A0432
N.Tharun yadav	199L1A0439
G.Vinay	199L1A0413
M.Mohan	199L1A0434
G.Sushmitha	209L5A0406

B.Tech, students of SEAGI, Affiliated to JNTUA, Anantapuramu in partial fulfillment of the requirements for the award of the Degree of **BACHELOR OF TECHNOLOGY** with the specialization in **ELECTRONICS & COMMUNICATION ENGINEERING** during the Academic year 2019 - 2023.

GUIDE *S.Dharaneswar*  
**Mr.S.DHARANESWAR, M.Tech.**  
Assistant professor,  
Department of ECE, SEAGI

*P. Sai Prasad*  
**HEAD OF THE DEPARTMENT**  
**Mr. P.SAI PRASAD**  
Associate professor,  
Department of ECE, SEAGI

Viva-Voce Conducted on 05/05/23

*P. Sai Prasad*  
Internal Examiner

*P. Sai Prasad*  
External Examiner

**SIDDARTHA EDUCATIONAL ACADEMY GROUP OF INSTITUTIONS**  
**Near C. Gollapalli, Tirupati - 517 505**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**





**CERTIFICATE**

This is to certify that the project report entitled "**SOLAR BASED FAST TAG CHARGER FOR ELECTRICAL VEHICLE**" is a bonafide work carried out by

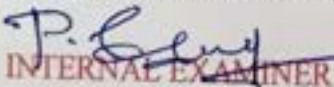
N.THEJASRI	-209L5A0421
T.LIKHITHA	-209L5A0435
M.SUNITHA	-209L5A0415
T.SNEHA	-209L5A0436
G.PRAKASH	-199L1A0417

B. Tech students of Siddhartha Educational Academy Group of Institutions, Affiliated to JNTUA, Anantapuram in partial fulfillment of the requirements for the award of the Degree of **BACHELOR OF TECHNOLOGY** with the specialization in **ELECTRONICS AND COMMUNICATION ENGINEERING** during the Academic year 2022-2023.

**GUIDE**  
  
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Assistant Professor  
Department of ECE, SEAGL

  
**HEAD OF THE DEPARTMENT**  
**Mr.P.SAI PRASAD, M.Tech,(PhD),**  
Assistant Professor  
Department of ECE, SEAGL

Viva-Voice Conducted on 06/05/2023

  
**INTERNAL EXAMINER**

  
**EXTERNAL EXAMINER**



**SIDDARTHA EDUCATIONAL ACADEMY GROUP OF INSTITUTIONS**  
**Near C. Gollapalli, Tirupati - 517 505**  
**DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING**



**CERTIFICATE**

This is to certify that the project report entitled "**INDUSTRIAL AUTOMATION & (MACHINE CONTROL SYSTEM BASED ON TEMPERATURE)**" is a bonafide work carried out by

<b>P. SRINIVASULU REDDY</b>	-199L1A0444
<b>V.DEEPIKA</b>	-199L1A0460
<b>T. BHAVYA</b>	-209L5A0433
<b>S. PRABHAKAR</b>	-209L5A0432
<b>B.THARAKARATHNA</b>	-199L1A0456

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*Swetha*  
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Near C. Gollapalli, Tirupati - 517 505  
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING



**CERTIFICATE**

This is to certify that the project report entitled "**MANHOLE MONITORING WITH FAULT DETECTION & REPORTING SYSTEM FOR MUNICIPAL DEPARTMENT**" is a bonafide work carried out by

M.CHANDHI PRIYA	- 209L5A0417
M.VAMSIKUMAR RAJU	- 199L1A0437
M.THEJA	- 209L5A0418
G.SURENDRA	- 199L1A0415

B. Tech students of Siddhartha Educational Academy Group of Institutions, Affiliated to JNTUA, Anantapuram in partial fulfillment of the requirements for the award of the Degree of **BACHELOR OF TECHNOLOGY** with the specialization in **ELECTRONICS AND COMMUNICATION ENGINEERING** during the Academic year 2022-2023.

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Assistant Professor,  
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EXTERNAL EXAMINER



**3. Courses on Professional Ethics,  
Gender, Human Values,  
Environment and Sustainability**



## SIDDARTHA EDUCATIONAL ACADEMY GROUP OF INSTITUTIONS

(An Integrated Campus for Engineering & MBA)

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

Near C. Gollapalli, Tirupati – 517 505, Andhra Pradesh

1.3.1 Institution Integrates cross cutting issues relevant to professional Ethics, Gender, Human values, Environment and Sustainability (2022-23)

Cross Cutting issue	Regulation	Course code	Name of the Course	Year of study	Academic year
Human values and Professional Ethics	R20	20A52101T	Communicative English	I.I ( CIVIL, EEE, ECE )	2022-2023
	R20	20A52101P	Communicative English LAB	I.I ( CIVIL, EEE, ECE )	2022-2023
	R20	20A52302	Organizational Behaviour	II-I(CE,EEE,ECE)	2022-2023
	R20	20A52201	Universal Human Values	II-I (CE,EEE,ECE,CSE)	2022-2023
	R19	19A52701A	Organizational Behaviour	IV-I(CE,ME,EEE,ECE, CSE)	2022-2023
	R20	20A52401	Soft Skills	III-I(EEE)	2022-2023
	R20	20A99601	Intellectual Property Rights & Patents	III-II(CE,EEE,ME,ECE ,CSE)	2022-2023
	R20	20A52302	Organizational Behaviour	II-II(CSE)	2022-2023
	R20	20A52401	Soft skills	II-II(CE,ME,ECE)	2022-2023
	R20	20A52401	Soft skills	III-II(CSE)	2022-2023
	R21	21DAC101a	English for Research paper Writing	M.Tech I-I(ES,CSE)	2022-2023
	R21	21DAC201c	Personality Development through Life Enlightenment Skills	M.Tech I-II(SE)	2022-2023
	R21	21DRM101	Research Methodology & IPR	M.Tech I-I(SE)	2022-2023
Environment and Sustainability	R20	20A99201	Environmental Science	II-I(ME)	2022-2023
	R19	19A01704A	Air pollution & Control	IV-I(ME,EEE,ECE,CS E)	2022-2023
	R20	20A99201	Environmental Science	I-II(EEE,ECE)	2022-2023
	R20	20A52201	Universal Human Values	I-II(ME,CSE,CSM)	2022-2023
	R20	20A01404T	Environmental Engineering-I	II-II(CE)	2022-2023
	R20	20A01404P	Environmental Engineering Lab	II-II(CE)	2022-2023



	R20	20A01604c	Environmental Impact Assessment	III-II(CE)	2022-2023
	R19	19A01802b	Global Warming & Climate Change	IV-II(EEE,ME,ECE,CS E)	2022-2023
	R19	19A01801c 1	Environmental Impact Assessment	IV-II(CE)	2022-2023

  
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**PRINCIPAL**

(20A52101T) COMMUNICATIVE ENGLISH  
(Common to All Branches of Engineering)

**Course Objectives**

- Facilitate effective listening skills for better comprehension of academic lectures and English spoken by native speakers
- Focus on appropriate reading strategies for comprehension of various academic texts and authentic materials
- Help improve speaking skills through participation in activities such as role plays, discussions and structured talks/oral presentations
- Impart effective strategies for good writing and demonstrate the same in summarizing, writing well organized essays, record and report useful information
- Provide knowledge of grammatical structures and vocabulary and encourage their appropriate use in speech and writing

**UNIT -1**

**Lesson: On the Conduct of Life: William Hazlitt**

**Listening:** Identifying the topic, the context and specific pieces of information by listening to short audio texts and answering a series of questions. **Speaking:** Asking and answering general questions on familiar topics such as home, family, work, studies and interests; introducing oneself and others. **Reading:** Skimming to get the main idea of a text; scanning to look for specific pieces of information. **Reading for Writing:** Beginnings and endings of paragraphs - introducing the topic, summarizing the main idea and/or providing a transition to the next paragraph. **Grammar and Vocabulary:** Parts of Speech, Content words and function words; word forms: verbs, nouns, adjectives and adverbs; nouns: countable and uncountable; singular and plural; basic sentence structures; simple question form - wh-questions; word order in sentences.

**Learning Outcomes**

At the end of the module, the learners will be able to

- Understand social or transactional dialogues spoken by native speakers of English and identify the context, topic, and pieces of specific information
- Ask and answer general questions on familiar topics and introduce oneself/others
- Employ suitable strategies for skimming and scanning to get the general idea of a text and locate specific information
- Recognize paragraph structure and be able to match beginnings/endings/headings with paragraphs
- Form sentences using proper grammatical structures and correct word forms

**UNIT -2**

**Lesson: The Brook: Alfred Tennyson**

**Listening:** Answering a series of questions about main idea and supporting ideas after listening to audio texts. **Speaking:** Discussion in pairs/small groups on specific topics followed by short structured

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talks. **Reading:** Identifying sequence of ideas; recognizing verbal techniques that help to link the ideas in a paragraph together. **Writing:** Paragraph writing (specific topics) using suitable cohesive devices; mechanics of writing - punctuation, capital letters. **Grammar and Vocabulary:** Cohesive devices - linkers, sign posts and transition signals; use of articles and zero article; prepositions.

### Learning Outcomes

At the end of the module, the learners will be able to

- Comprehend short talks on general topics
- Participate in informal discussions and speak clearly on a specific topic using suitable discourse markers
- Understand the use of cohesive devices for better reading comprehension
- Write well structured paragraphs on specific topics
- Identify basic errors of grammar/ usage and make necessary corrections in short texts

### UNIT -3

#### Lesson: The Death Trap: Saki

**Listening:** Listening for global comprehension and summarizing what is listened to. **Speaking:** Discussing specific topics in pairs or small groups and reporting what is discussed. **Reading:** Reading a text in detail by making basic inferences -recognizing and interpreting specific context clues; strategies to use text clues for comprehension. **Writing:** Summarizing, Paragraph Writing **Grammar and Vocabulary:** Verbs - tenses; subject-verb agreement; direct and indirect speech, reporting verbs for academic purposes.

### Learning Outcomes


At the end of the module, the learners will be able to

- Comprehend short talks and summarize the content with clarity and precision
- Participate in informal discussions and report what is discussed
- Infer meanings of unfamiliar words using contextual clues
- Write summaries based on global comprehension of reading/listening texts
- Use correct tense forms, appropriate structures and a range of reporting verbs in speech and writing

### UNIT-4

#### Lesson: Innovation: Muhammad Yunus

**Listening:** Making predictions while listening to conversations/ transactional dialogues without video; listening with video. **Speaking:** Role plays for practice of conversational English in academic contexts (formal and informal) - asking for and giving information/directions. **Reading:** Studying the use of graphic elements in texts to convey information, reveal trends/patterns/relationships, communicate processes or display complicated data. **Writing:** Letter Writing: Official Letters/Report Writing **Grammar and Vocabulary:** Quantifying expressions - adjectives and adverbs; comparing and contrasting; Voice - Active & Passive Voice

  
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### **Learning Outcomes**

At the end of the module, the learners will be able to

- Infer and predict about content of spoken discourse
- Understand verbal and non-verbal features of communication and hold formal/informal conversations
- Interpret graphic elements used in academic texts
- Produce a coherent paragraph interpreting a figure/graph/chart/table
- Use language appropriate for description and interpretation of graphical elements

### **UNIT -5**

#### **Lesson: Politics and the English Language: George Orwell**

Listening: Identifying key terms, understanding concepts and answering a series of relevant questions that test comprehension. Speaking: Formal oral presentations on topics from academic contexts - without the use of PPT slides. Reading: Reading for comprehension. Writing: Writing structured essays on specific topics using suitable claims and evidences. Grammar and Vocabulary: Editing short texts –identifying and correcting common errors in grammar and usage (articles, prepositions, tenses, subject verb agreement)

### **Learning Outcomes**

At the end of the module, the learners will be able to

- Take notes while listening to a talk/lecture and make use of them to answer questions
- Make formal oral presentations using effective strategies
- Comprehend, discuss and respond to academic texts orally and in writing
- Produce a well-organized essay with adequate support and detail
- Edit short texts by correcting common errors

### **Text Book:**

1. Language and Life: A Skills Approach- 1 Edition 2019, Orient Black Swan

### **Reference Books:**

1. Bailey, Stephen. Academic writing: A handbook for international students. Routledge, 2014.
2. Chase, Becky Tarver. Pathways: Listening, Speaking and Critical Thinking. Heinley ELT; 2nd Edition, 2018.
3. Raymond Murphy's English Grammar in Use Fourth Edition (2012) E-book
4. Hewings, Martin. Cambridge Academic English (B2). CUP, 2012.
5. Oxford Learners Dictionary, 12<sup>th</sup> Edition, 2011
6. Norman Lewis Word Power Made Easy- The Complete Handbook for Building a Superior Vocabulary (2014)
7. Speed Reading with the Right Brain: Learn to Read Ideas Instead of Just Words by David Butler

  
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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**  
**B.Tech (ECE)- I Sem**

**L T P C**  
**0 0 3 1.5**

**(20A52101P) COMMUNICATIVE ENGLISH LAB**  
(Common to All Branches of Engineering)

**Course Objectives**

- students will be exposed to a variety of self instructional, learner friendly modes of language learning
- students will learn better pronunciation through stress, intonation and rhythm
- students will be trained to use language effectively to face interviews, group discussions, public speaking
- students will be initiated into greater use of the computer in resume preparation, report writing, format making etc

**List of Topics**

1. Phonetics
2. Reading comprehension
3. Describing objects/places/persons
4. Role Play or Conversational Practice
5. JAM
6. Etiquettes of Telephonic Communication
7. Information Transfer
8. Note Making and Note Taking
9. E-mail Writing
10. Group Discussions-1
11. Resume Writing
12. Debates
13. Oral Presentations
14. Poster Presentation
15. Interviews Skills-1

**Suggested Software**

Orel, Walden Infotech, Young India Films

**Reference Books**

1. Bailey, Stephen. Academic writing: A handbook for international students. Routledge, 2014.
2. Chase, Becky Tarver. Pathways: Listening, Speaking and Critical Thinking. Heinley ELT; 2nd Edition, 2018.
3. Skillful Level 2 Reading & Writing Student's Book Pack (B1) Macmillan Educational.
4. Hewings, Martin. Cambridge Academic English (B2). CUP, 2012.
5. A Textbook of English Phonetics for Indian Students by T.Balasubramanyam

**Web Links**


[www.esl-lab.com](http://www.esl-lab.com)  
[www.englishmedialab.com](http://www.englishmedialab.com)  
[www.englishinteractive.net](http://www.englishinteractive.net)

  
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### **Course Outcomes**

After completing the course, the student will be able to

- Listening and repeating the sounds of English Language
- Understand the different aspects of the English language
- proficiency with emphasis on LSRW skills
- Apply communication skills through various language learning activities
- Analyze the English speech sounds, stress, rhythm, intonation and syllable
- Division for better listening and speaking comprehension.
- Evaluate and exhibit acceptable etiquette essential in social and professional settings
- Create awareness on mother tongue influence and neutralize it in order to
- Improve fluency in spoken English.

  
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ANANTHAPURAMU – 515 002 (A.P) INDIA

**CIVIL ENGINEERING**

Course Code	ORGANISATIONAL BEHAVIOUR (Common to All branches of Engineering)		L	T	P	C
20A52302			3	0	0	3
Pre-requisite	NIL	Semester	III			
<b>Course Objectives:</b>						
<ul style="list-style-type: none"> <li>• To enable student's comprehension of organizational behavior</li> <li>• To offer knowledge to students on self-motivation, leadership and management</li> <li>• To facilitate them to become powerful leaders</li> <li>• To Impart knowledge about group dynamics</li> <li>• To make them understand the importance of change and development</li> </ul>						
<b>Course Outcomes (CO):</b>						
<ul style="list-style-type: none"> <li>• Define the Organizational Behaviour, its nature and scope.</li> <li>• Understand the nature and concept of Organizational behaviour</li> <li>• Apply theories of motivation to analyse the performance problems</li> <li>• Analyse the different theories of leadership</li> <li>• Evaluate group dynamics</li> <li>• Develop as powerful leader</li> </ul>						
UNIT - I	<b>Introduction to Organizational Behavior</b>					
Meaning, definition, nature, scope and functions - Organizing Process – Making organizing effective -Understanding Individual Behaviour –Attitude -Perception - Learning – Personality.						
UNIT - II	<b>Motivation and Leading</b>					
Theories of Motivation- Maslow's Hierarchy of Needs - Herzberg's Two Factor Theory - Vroom's theory of expectancy – Mc Clelland's theory of needs–Mc Gregor's theory X and theory Y– Adam's equity theory – Locke's goal setting theory– Alderfer's ERG theory .						
UNIT - III	<b>Organizational Culture</b>					
Introduction – Meaning, scope, definition, Nature - Organizational Climate - Leadership - Traits Theory–Managerial Grid - Transactional Vs Transformational Leadership - Qualities of good Leader - Conflict Management -Evaluating Leader- Women and Corporate leadership.						
UNIT - IV	<b>Group Dynamics</b>					
Introduction – Meaning, scope, definition, Nature- Types of groups - Determinants of group behavior - Group process – Group Development - Group norms - Group cohesiveness - Small Groups - Group decision making - Team building - Conflict in the organization– Conflict resolution						
UNIT - V	<b>Organizational Change and Development</b>					
Introduction –Nature, Meaning, scope, definition and functions- Organizational Culture - Changing the Culture – Change Management – Work Stress Management - Organizational management – Managerial implications of organization's change and development						
<b>Textbooks:</b>						
1. Luthans, Fred, Organisational Behaviour, McGraw-Hill, 12 Th edition 2011 2. P Subba Ran, Organisational Behaviour, Himalya Publishing House 2017						
<b>Reference Books:</b>						
<ul style="list-style-type: none"> <li>• McShane, Organizational Behaviour, TMH 2009</li> <li>• Nelson, Organisational Behaviour, Thomson, 2009.</li> <li>• Robbins, P. Stephen, Timothy A. Judge, Organisational Behaviour, Pearson 2009.</li> <li>• Aswathappa, Organisational Behaviour, Himalaya, 2009</li> </ul>						
<b>Online Learning Resources:</b>						
<a href="http://www.slideshare.net/Knight1040/organizational-culture-9608857s://www.slideshare.net/AbhayRajpoot3/motivation-165556714">http://www.slideshare.net/Knight1040/organizational-culture-9608857s://www.slideshare.net/AbhayRajpoot3/motivation-165556714</a> <a href="https://www.slideshare.net/harshrastogi1/group-dynamics-159412405">https://www.slideshare.net/harshrastogi1/group-dynamics-159412405</a> <a href="https://www.slideshare.net/vanvasingla1/organizational-change-development-26565951">https://www.slideshare.net/vanvasingla1/organizational-change-development-26565951</a>						






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ANANTHAPURAMU – 515 002 (A.P) INDIA

**CIVIL ENGINEERING**

Course Code	Universal Human Values (Common to all branches)		L	T	P	C
20A52201			3	0	0	0
Pre-requisite	NIL	Semester	III			
<b>Course Objectives:</b>						
<ul style="list-style-type: none"> <li>• Development of a holistic perspective based on self-exploration about themselves (human being), family, society and nature/existence.</li> <li>• Understanding (or developing clarity) of the harmony in the human being, family, society and nature/existence</li> <li>• Strengthening of self-reflection.</li> <li>• Development of commitment and courage to act.</li> </ul>						
<b>Course Outcomes (CO):</b>						
<p>By the end of the course,</p> <ul style="list-style-type: none"> <li>• Students are expected to become more aware of themselves, and their surroundings (family, society, nature)</li> <li>• They would become more responsible in life, and in handling problems with sustainable solutions, while keeping human relationships and human nature in mind.</li> <li>• They would have better critical ability.</li> <li>• They would also become sensitive to their commitment towards what they have understood (human values, human relationship and human society).</li> <li>• It is hoped that they would be able to apply what they have learnt to their own self in different day-to-day settings in real life, at least a beginning would be made in this direction.</li> </ul>						
<b>UNIT - I</b>						<b>8 Hrs</b>
<b>Need, Basic Guidelines, Content and Process for Value Education</b>						
<ul style="list-style-type: none"> <li>• Purpose and motivation for the course, recapitulation from Universal Human Values-I</li> <li>• Self-Exploration-what is it? - Its content and process; 'Natural Acceptance' and Experiential Validation- as the process for self-exploration</li> <li>• Continuous Happiness and Prosperity- A look at basic Human Aspirations</li> <li>• Right understanding, Relationship and Physical Facility- the basic requirements for fulfilment of aspirations of every human being with their correct priority</li> <li>• Understanding Happiness and Prosperity correctly- A critical appraisal of the current scenario</li> <li>• Method to fulfil the above human aspirations: understanding and living in harmony at various levels.</li> </ul> <p>Include practice sessions to discuss natural acceptance in human being as the innate acceptance for living with responsibility (living in relationship, harmony and co-existence) rather than as arbitrariness in choice based on liking-disliking</p>						
<b>UNIT - II</b>						<b>8 Hrs</b>
<b>Understanding Harmony in the Human Being - Harmony in Myself!</b>						
<ul style="list-style-type: none"> <li>• Understanding human being as a co-existence of the sentient 'I' and the material 'Body'</li> <li>• Understanding the needs of Self ('I') and 'Body' - happiness and physical facility</li> <li>• Understanding the Body as an instrument of 'I' (I being the doer, seer and enjoyer)</li> <li>• Understanding the characteristics and activities of 'I' and harmony in 'I'</li> <li>• Understanding the harmony of I with the Body: Sanyam and Health; correct appraisal of Physical needs, meaning of Prosperity in detail</li> <li>• Programs to ensure Sanyam and Health.</li> </ul> <p>Include practice sessions to discuss the role others have played in making material goods available to me. Identifying from one's own life. Differentiate between prosperity and accumulation. Discuss program for ensuring health vs dealing with disease</p>						
<b>UNIT - III</b>						<b>8 Hrs</b>

  
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**CIVIL ENGINEERING**

<b>Understanding Harmony in the Family and Society- Harmony in Human- Human Relationship</b>	
<ul style="list-style-type: none"> <li>• Understanding values in human-human relationship; meaning of Justice (nine universal values in relationships) and program for its fulfilment to ensure mutual happiness; Trust and Respect as the foundational values of relationship</li> <li>• Understanding the meaning of Trust; Difference between intention and competence</li> <li>• Understanding the meaning of Respect, Difference between respect and differentiation; the other salient values in relationship</li> <li>• Understanding the harmony in the society (society being an extension of family): Resolution, Prosperity, fearlessness (trust) and co-existence as comprehensive Human Goals</li> <li>• Visualizing a universal harmonious order in society- Undivided Society, Universal Order- from family to world family.</li> </ul>	
Include practice sessions to reflect on relationships in family, hostel and institute as extended family, real life examples, teacher-student relationship, goal of education etc. Gratitude as a universal value in relationships. Discuss with scenarios. Elicit examples from students' lives	
<b>UNIT - IV</b>	<b>8 Hrs</b>
<b>Understanding Harmony in the Nature and Existence - Whole existence as Coexistence</b>	
<ul style="list-style-type: none"> <li>• Understanding the harmony in the Nature</li> <li>• Interconnectedness and mutual fulfilment among the four orders of nature- recyclability and self-regulation in nature</li> <li>• Understanding Existence as Co-existence of mutually interacting units in all- pervasive space</li> <li>• Holistic perception of harmony at all levels of existence.</li> </ul>	
Include practice sessions to discuss human being as cause of imbalance in nature (film "Home" can be used), pollution, depletion of resources and role of technology etc.	
<b>UNIT - V</b>	<b>10 Hrs</b>
<b>Implications of the above Holistic Understanding of Harmony on Professional Ethics</b>	
<ul style="list-style-type: none"> <li>• Natural acceptance of human values</li> <li>• Definitiveness of Ethical Human Conduct</li> <li>• Basis for Humanistic Education, Humanistic Constitution and Humanistic Universal Order</li> <li>• Competence in professional ethics: a. Ability to utilize the professional competence for augmenting universal human order b. Ability to identify the scope and characteristics of people friendly and eco-friendly production systems, c. Ability to identify and develop appropriate technologies and management patterns for above production systems.</li> <li>• Case studies of typical holistic technologies, management models and production systems</li> <li>• Strategy for transition from the present state to Universal Human Order: a. At the level of individual: as socially and ecologically responsible engineers, technologists and managers b. At the level of society: as mutually enriching institutions and organizations</li> <li>• Sum up.</li> </ul>	
Include practice Exercises and Case Studies will be taken up in Practice (tutorial) Sessions eg. To discuss the conduct as an engineer or scientist etc.	
<b>Textbooks:</b>	
<ol style="list-style-type: none"> <li>1. R R Gaur, R Asthana, G P Bagaria, "A Foundation Course in Human Values and Professional Ethics", 2<sup>nd</sup> Revised Edition, Excel Books, New Delhi, 2019. ISBN 978-93-87034-47-1</li> <li>2. R R Gaur, R Asthana, G P Bagaria, "Teachers' Manual for A Foundation Course in Human Values and Professional Ethics", 2<sup>nd</sup> Revised Edition, Excel Books, New Delhi, 2019. ISBN 978-93-87034-53-2</li> </ol>	
<b>Reference Books:</b>	

HUMANITIES ELECTIVE-II

(19A52701a) ORGANISATIONAL BEHAVIOUR

**Course Objectives :**

The objectives of this course are

- To make the student understand about the organizational behavior
- To enable them to develop self motivation, leadership and management
- To facilitate them to become powerful leaders
- Impart knowledge about group dynamics
- To make them understand the importance of change and development

**Syllabus**

**UNIT-I**

Organizational Behavior - Introduction to OB - Meaning and definition, scope - Organizing Process – Making organizing effective - Understanding Individual Behavior – Attitude - Perception - Learning - Personality Types

**Learning Outcomes:**

After completion of this unit student will

- Understand the concept of Organizational Behavior
- Contrast and compare Individual & Group Behavior and attitude
- Analyze Perceptions
- Evaluate personality types

**UNIT-II**

Motivation and Leading - Theories of Motivation - Maslow's Hierarchy of Needs - Herzberg's Two Factor Theory - Leading - Leading Vs Managing

**Learning Outcomes:**

After completion of this unit student will

- Understand the concept of Motivation
- Understand the Theories of motivation
- Explain how employees are motivated according to Maslow's Needs Hierarchy
- Compare and contrast leading and managing

**UNIT-III**



Leadership and Organizational Culture and Climate - Leadership - Traits Theory–Managerial Grid - Transactional Vs Transformational Leadership - Qualities of good Leader - Conflict Management - Evaluating Leader - Women and Corporate leadership.

**Learning Outcomes:**

After completion of this unit student will

- Know the concept of Leadership
- Contrast and compare Traits theory and Managerial Grid
- Know the difference between Transactional and Transformational Leadership
- Evaluate the qualities of good leaders
- Emerge as the good leader

**UNIT – IV**

Group Dynamics - Types of groups - Determinants of group behavior - Group process – Group Development - Group norms - Group cohesiveness - Small Groups - Group decision making - Team building - Conflict in the organization – Conflict resolution

**Learning Outcomes:**

After completion of this unit student will

- Know the concept of Group Dynamics
- Contrast and compare Group behavior and group development
- Analyze Group decision making
- Know how to resolve conflicts in the organization

**UNIT - V**

Organizational Change and Development - Organizational Culture - Changing the Culture – Change Management – Work Stress Management - Organizational management – Managerial implications of organization’s change and development

**Learning Outcomes:**

- After completion of this unit student will
- Know the importance of organizational change and development
- Apply change management in the organization
- Analyze work stress management
- Evaluate Managerial implications of organization

**Course outcomes:**

At the end of the course, students will be able to

- Understand the nature and concept of Organizational behavior
- Apply theories of motivation to analyze the performance problems



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**CIVIL ENGINEERING**

Course Code	Soft Skills		L	T	P	C
20A52401			1	0	2	2
Pre-requisite	NIL	Semester	IV			
Course Objectives:						
<ul style="list-style-type: none"> <li>• To encourage all round development of the students by focusing on soft skills</li> <li>• To make the students aware of critical thinking and problem-solving skills</li> <li>• To develop leadership skills and organizational skills through group activities</li> <li>• To function effectively with heterogeneous teams</li> </ul>						
Course Outcomes (CO):						
By the end of the program students should be able to <ul style="list-style-type: none"> <li>• Memorize various elements of effective communicative skills</li> <li>• Interpret people at the emotional level through emotional intelligence</li> <li>• apply critical thinking skills in problem solving</li> <li>• analyse the needs of an organization for team building</li> <li>• Judge the situation and take necessary decisions as a leader</li> <li>• Develop social and work-life skills as well as personal and emotional well-being</li> </ul>						
<b>UNIT – I</b>	<b>Soft Skills &amp; Communication Skills</b>				<b>10 Hrs</b>	
Introduction, meaning, significance of soft skills – definition, significance, types of communication skills - Intrapersonal & Inter-personal skills - Verbal and Non-verbal Communication						
<b>Activities:</b>						
<b>Intrapersonal Skills-</b> Narration about self- strengths and weaknesses- clarity of thought – self-expression – articulating with felicity (The facilitator can guide the participants before the activity citing examples from the lives of the great, anecdotes and literary sources)						
<b>Interpersonal Skills-</b> Group Discussion – Debate – Team Tasks - Book and film Reviews by groups - Group leader presenting views (non- controversial and secular) on contemporary issues or on a given topic.						
<b>Verbal Communication-</b> Oral Presentations- Extempore- brief addresses and speeches- convincing- negotiating- agreeing and disagreeing with professional grace.						
<b>Non-verbal communication –</b> Public speaking – Mock interviews – presentations with an objective to identify non- verbal clues and remedy the lapses on observation						
<b>UNIT – II</b>	<b>Critical Thinking</b>				<b>10 Hrs</b>	
Active Listening – Observation – Curiosity – Introspection – Analytical Thinking – Open-mindedness – Creative Thinking						
<b>Activities:</b>						
Gathering information and statistics on a topic - sequencing – assorting – reasoning – critiquing issues –placing the problem – finding the root cause - seeking viable solution – judging with rationale – evaluating the views of others - Case Study, Story Analysis						
<b>UNIT – III</b>	<b>Problem Solving &amp; Decision Making</b>				<b>10 Hrs</b>	
Meaning & features of Problem Solving – Managing Conflict – Conflict resolution – Methods of decision making – Effective decision making in teams – Methods & Styles						
<b>Activities:</b>						
Placing a problem which involves conflict of interests, choice and views – formulating the problem – exploring solutions by proper reasoning – Discussion on important professional, career and organizational decisions and initiate debate on the appropriateness of the decision Case Study & Group Discussion						






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**CIVIL ENGINEERING**

UNIT – IV	Emotional Intelligence & Stress Management	10 Hrs
Managing Emotions – Thinking before Reacting – Empathy for Others – Self-awareness – Self-Regulation – Stress factors – Controlling Stress – Tips  <b>Activities:</b> Providing situations for the participants to express emotions such as happiness, enthusiasm, gratitude, sympathy, and confidence, compassion in the form of written or oral presentations. Providing opportunities for the participants to narrate certain crisis and stress –ridden situations caused by failure, anger, jealousy, resentment and frustration in the form of written and oral presentation, Organizing Debates		
UNIT – V	Leadership Skills	10 Hrs
Team-Building – Decision-Making – Accountability – Planning – Public Speaking – Motivation – Risk-Taking - Team Building - Time Management  <b>Activities:</b> Forming group with a consensus among the participants- choosing a leader- encouraging the group members to express views on leadership- democratic attitude- sense of sacrifice – sense of adjustment – vision – accommodating nature- eliciting views on successes and failures of leadership using the past knowledge and experience of the participants, Public Speaking, Activities on Time Management, Motivation, Decision Making, Group discussion etc. <b>NOTE:-</b> 1. The facilitator can guide the participants before the activity citing examples from the lives of the great, anecdotes, epics, scriptures, autobiographies and literary sources which bear true relevance to the prescribed skill. 2. Case studies may be given wherever feasible for example for Decision Making- The decision of King Lear or for good Leadership – Mahendar Singh Dhoni etc.		
<b>Textbooks:</b>		
1. Personality Development and Soft Skills (English, Paperback, Mitra Barun K.) Publisher: Oxford University Press; Pap/Cdr edition (July 22, 2012) 2. Personality Development and Soft Skills: Preparing for Tomorrow, <u>Dr Shikha Kapoor</u> Publisher : I K International Publishing House; 0 edition (February 28, 2018)		
<b>Reference Books:</b>		
1. Soft skills: personality development for life success by Prashant Sharma, BPB publications 2018. 2. Soft Skills By Alex K. Published by S.Chand 3. Soft Skills: An Integrated Approach to Maximise Personality Gajendra Singh Chauhan, Sangeetha Sharma Published by Wiley. 4. Communication Skills and Soft Skills (Hardcover, A. Sharma) Publisher: Yking books 5. SOFT SKILLS for a BIG IMPACT (English, Paperback, RenuShorey) Publisher: Notion Press 6. Life Skills Paperback English Dr. Rajiv Kumar Jain, Dr. Usha Jain Publisher: Vayu Education of India		
<b>Online Learning Resources:</b>		
1. <a href="https://youtu.be/DUIsNjtg2L8?list=PLLy_2iUCG87CQhELCYtvXh0E_y-bOOJ_g">https://youtu.be/DUIsNjtg2L8?list=PLLy_2iUCG87CQhELCYtvXh0E_y-bOOJ_g</a> 2. <a href="https://youtu.be/xBaLgJZ0t6A?list=PLzf4HHIsQFwJZel_j2PUy0pwjVUgj7KlJ">https://youtu.be/xBaLgJZ0t6A?list=PLzf4HHIsQFwJZel_j2PUy0pwjVUgj7KlJ</a> 3. <a href="https://youtu.be/-Y-R9hDI7IU">https://youtu.be/-Y-R9hDI7IU</a> 4. <a href="https://youtu.be/gkLsn4ddmIs">https://youtu.be/gkLsn4ddmIs</a> 5. <a href="https://youtu.be/2bf9K2rRWwo">https://youtu.be/2bf9K2rRWwo</a> 6. <a href="https://youtu.be/FchfE3c2jzc">https://youtu.be/FchfE3c2jzc</a>		

  
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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**  
**B.Tech (CE)– III-II Sem**

**L T P C**  
**2 0 0 0**

**(20A99601) INTELLECTUAL PROPERTY RIGHTS AND PATENTS**  
**(Mandatory Non-Credit Course)**

**Course Objectives:**

This course introduces the student to the basics of Intellectual Property Rights, Copy Right Laws, Cyber Laws, Trade Marks and Issues related to Patents. The overall idea of the course is to help and encourage the student for startups and innovations

**Course Outcomes:**

- Understand IPR law & Cyber law
- Discuss registration process, maintenance and litigations associated with trademarks
- Illustrate the copy right law
- Enumerate the trade secret law.

**UNIT I**

Introduction to Intellectual Property Law – Evolutionary past – Intellectual Property Law Basics – Types of Intellectual Property – Innovations and Inventions of Trade related Intellectual Property Rights – Agencies Responsible for Intellectual Property Registration – Infringement – Regulatory – Overuse or Misuse of Intellectual Property Rights – Compliance and Liability Issues.

**UNIT II**

Introduction to Copyrights – Principles of Copyright – Subject Matters of Copyright – Rights Afforded by Copyright Law – Copyright Ownership – Transfer and Duration – Right to Prepare Derivative Works – Rights of Distribution – Rights of performers – Copyright Formalities and Registration – Limitations – Infringement of Copyright – International Copyright Law-Semiconductor Chip Protection Act.

**UNIT III**

Introduction to Patent Law – Rights and Limitations – Rights under Patent Law – Patent Requirements – Ownership and Transfer – Patent Application Process and Granting of Patent – Patent Infringement and Litigation – International Patent Law – Double Patenting – Patent Searching – Patent Cooperation Treaty – New developments in Patent Law- Invention Developers and Promoters.

**UNIT IV**

Introduction to Trade Mark – Trade Mark Registration Process – Post registration procedures – Trade Mark maintenance – Transfer of rights – Inter parties Proceedings – Infringement – Dilution of Ownership of Trade Mark – Likelihood of confusion – Trade Mark claims – Trade Marks Litigation – International Trade Mark Law.

**UNIT V**

Introduction to Trade Secrets – Maintaining Trade Secret – Physical Security – Employee Access Limitation – Employee Confidentiality Agreement – Trade Secret Law – Unfair Competition – Trade Secret Litigation – Breach of Contract – Applying State Law. Introduction to Cyber Law – Information Technology Act – Cyber Crime and E-commerce – Data Security – Confidentiality – Privacy – International aspects of Computer and Online Crime.

**Textbooks:**

1. Deborah E.Bouchoux: "Intellectual Property", Cengage learning, New Delhi
2. Kompal Bansal & Parishit Bansal "Fundamentals of IPR for Engineers", BS Publications (Press)
3. Cyber Law. Texts & Cases, South-Western's Special Topics Collections

**References:**

1. Prabhuddha Ganguli: " Intellectual Property Rights" Tata Mc-Graw – Hill, New Delhi
2. Richard Stim: "Intellectual Property", Cengage Learning, New Delhi.
3. R. Radha Krishnan, S. Balasubramanian: "Intellectual Property Rights", Excel Books. New Delhi.
4. M. Ashok Kumar and Mohd. Iqbal Ali: "Intellectual Property Right" Serials Pub.

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**M.TECH. IN EMBEDDED SYSTEMS**

**COURSE STRUCTURE & SYLLABI**

Course Code	ENGLISH FOR RESEARCH PAPER WRITING	L	T	P	C
21DAC101a		2	0	0	0
<b>Semester</b>		<b>I</b>			
<b>Course Objectives:</b> This course will enable students:					
<ul style="list-style-type: none"> <li>• Understand the essentials of writing skills and their level of readability</li> <li>• Learn about what to write in each section</li> <li>• Ensure qualitative presentation with linguistic accuracy</li> </ul>					
<b>Course Outcomes (CO):</b> Student will be able to					
<ul style="list-style-type: none"> <li>• Understand the significance of writing skills and the level of readability</li> <li>• Analyze and write title, abstract, different sections in research paper</li> <li>• Develop the skills needed while writing a research paper</li> </ul>					
<b>UNIT - I</b>		Lecture Hrs:10			
IOverview of a Research Paper- Planning and Preparation- Word Order- Useful Phrases - Breaking up Long Sentences-Structuring Paragraphs and Sentences-Being Concise and Removing Redundancy -Avoiding Ambiguity					
<b>UNIT - II</b>		Lecture Hrs:10			
Essential Components of a Research Paper- Abstracts- Building Hypothesis-Research Problem - Highlight Findings- Hedging and Criticizing, Paraphrasing and Plagiarism, Cauterization					
<b>UNIT - III</b>		Lecture Hrs:10			
Introducing Review of the Literature – Methodology - Analysis of the Data-Findings - Discussion- Conclusions-Recommendations.					
<b>UNIT - IV</b>		Lecture Hrs:9			
Key skills needed for writing a Title, Abstract, and Introduction					
<b>UNIT - V</b>		Lecture Hrs:9			
Appropriate language to formulate Methodology, incorporate Results, put forth Arguments and draw Conclusions					
<b>Suggested Reading</b>					
<ol style="list-style-type: none"> <li>1. Goldbort R (2006) Writing for Science, Yale University Press (available on Google Books) Model Curriculum of Engineering &amp; Technology PG Courses [Volume-I]</li> <li>2. Day R (2006) How to Write and Publish a Scientific Paper, Cambridge University Press</li> <li>3. Highman N (1998), Handbook of Writing for the Mathematical Sciences, SIAM, Highman'sbook</li> <li>4. Adrian Wallwork , English for Writing Research Papers, Springer New York Dordrecht Heidelberg London, 2011</li> </ol>					

  
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**M.TECH. IN STRUCTURAL ENGINEERING  
 COURSE STRUCTURE & SYLLABI**

Course Code	PERSONALITY DEVELOPMENT THROUGH LIFE ENLIGHTENMENT SKILLS	L	T	P	C
21DAC201c		2	0	0	0
<b>Semester</b>		<b>II</b>			
<b>Course Objectives:</b> This course will enable students:					
<ul style="list-style-type: none"> <li>• To learn to achieve the highest goal happily</li> <li>• To become a person with stable mind, pleasing personality and determination</li> <li>• To awaken wisdom in students</li> </ul>					
<b>Course Outcomes (CO):</b> Student will be able to					
<ul style="list-style-type: none"> <li>• Study of Shrimad-Bhagwad-Geeta will help the student in developing his personality and achieve the highest goal in life</li> <li>• The person who has studied Geeta will lead the nation and mankind to peace and prosperity</li> <li>• Study of Neetishatakam will help in developing versatile personality of students</li> </ul>					
<b>UNIT - I</b>					
Neetishatakam- Holistic development of personality Verses-19,20,21,22(wisdom) Verses-29,31,32(pride & heroism) Verses-26,28,63,65(virtue)					
<b>UNIT - II</b>					
Neetishatakam- Holistic development of personality Verses-52,53,59(dont's) Verses-71,73,75,78(do's)					
<b>UNIT - III</b>					
Approach to day to day work and duties. Shrimad Bhagwad Geeta: Chapter 2-Verses 41,47,48, Chapter 3-Verses 13,21,27,35, Chapter 6-Verses 5,13,17,23,35, Chapter 18-Verses 45,46,48.					
<b>UNIT - IV</b>					
Statements of basic knowledge. Shrimad Bhagwad Geeta: Chapter 2-Verses 56,62,68 Chapter 12 -Verses 13,14,15,16,17,18 Personality of Role model. Shrimad Bhagwad Geeta:					
<b>UNIT - V</b>					
Chapter 2-Verses 17, Chapter 3-Verses 36,37,42, Chapter 4-Verses 18,38,39 Chapter 18- Verses 37,38,63					
<b>Suggested Reading</b>					
1. "Srimad Bhagavad Gita" by Swami Swarupananda Advaita Ashram (Publication Department), Kolkata 2. Bhartrihari's Three Satakam (Niti-sringar-vairagya) by P.Gopinath, Rashtriya Sanskrit Sansthanam, New Delhi.					


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**M.TECH. IN STRUCTURAL ENGINEERING  
 COURSE STRUCTURE & SYLLABI**

Course Code	RESEARCH METHODOLOGY AND IPR	L	T	P	C
21DRM101		2	0	0	2
<b>Semester</b>		<b>I</b>			
<b>Course Objectives:</b>					
<ul style="list-style-type: none"> <li>Identify an appropriate research problem in their interesting domain.</li> <li>Understand ethical issues understand the Preparation of a research project thesis report.</li> <li>Understand the Preparation of a research project thesis report</li> <li>Understand the law of patent and copyrights.</li> <li>Understand the Adequate knowledge on IPR</li> </ul>					
<b>Course Outcomes (CO):</b> Student will be able to					
<ul style="list-style-type: none"> <li>Analyze research related information</li> <li>Follow research ethics</li> <li>Understand that today's world is controlled by Computer, Information Technology, but tomorrow world will be ruled by ideas, concept, and creativity.</li> <li>Understanding that when IPR would take such important place in growth of individuals &amp; nation, it is needless to emphasis the need of information about Intellectual Property Right to be promoted among students in general &amp; engineering in particular.</li> <li>Understand that IPR protection provides an incentive to inventors for further research work and investment in R &amp; D, which leads to creation of new and better products, and in turn brings about, economic growth and social benefits.</li> </ul>					
<b>UNIT - I</b>		<b>Lecture Hrs:</b>			
Meaning of research problem, Sources of research problem, Criteria Characteristics of a good research problem, Errors in selecting a research problem, scope, and objectives of research problem. Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations					
<b>UNIT - II</b>		<b>Lecture Hrs:</b>			
Effective literature studies approaches, analysis Plagiarism, Research ethics, Effective technical writing, how to write report, Paper Developing a Research Proposal, Format of research proposal, a presentation and assessment by a review committee.					
<b>UNIT - III</b>		<b>Lecture Hrs:</b>			
Nature of Intellectual Property: Patents, Designs, Trade and Copyright. Process of Patenting and Development: technological research, innovation, patenting, development. International Scenario: International cooperation on Intellectual Property. Procedure for grants of patents, Patenting under PCT.					
<b>UNIT - IV</b>		<b>Lecture Hrs:</b>			
Patent Rights: Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications.					
<b>UNIT - V</b>		<b>Lecture Hrs:</b>			
New Developments in IPR: Administration of Patent System. New developments in IPR; IPR of Biological Systems, Computer Software etc. Traditional knowledge Case Studies, IPR and IITs.					
<b>Textbooks:</b>					
1. Stuart Melville and Wayne Goddard, "Research methodology: an introduction for science & engineering students" 2. Wayne Goddard and Stuart Melville, "Research Methodology: An Introduction"					
<b>Reference Books:</b>					
1. Ranjit Kumar, 2nd Edition, "Research Methodology: A Step by Step Guide for beginners" 2. Halbert, "Resisting Intellectual Property", Taylor & Francis Ltd ,2007. 3. Mayall, "Industrial Design", McGraw Hill, 1992. 4. Niebel, "Product Design", McGraw Hill, 1974. 5. Asimov, "Introduction to Design", Prentice Hall, 1962. 6. Robert P. Merges, Peter S. Menell, Mark A. Lemley, " Intellectual Property in the Technological Age", 2016.					

(20A99201) ENVIRONMENTAL SCIENCE

(Common to All Branches of Engineering)

**Course Objectives:**

- 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.

**UNIT – I**

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

**Natural Resources :** Renewable and non-renewable resources – Natural resources and associated problems – Forest resources – Use and over – exploitation, deforestation, case studies – Timber extraction – Mining, dams and other effects on forest and tribal people – Water resources – Use and over utilization of surface and ground water – Floods, drought, conflicts over water, dams – benefits and problems – Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies – 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:

**Learning outcomes:**

At the end of this unit, the students will be able to


- To know the importance of public awareness
- To know about the various resources

**UNIT – II**

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

- a. Forest ecosystem.
- b. Grassland ecosystem
- c. Desert ecosystem
- d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

**Biodiversity And Its Conservation :** Introduction 0 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, National and local levels – India as a mega-diversity nation – Hot-spots of biodiversity – Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts – Endangered and endemic species of India – Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

  
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**Learning outcomes:**

At the end of this unit, the students will be able to

- To know about various eco systems and their characteristics
- To know about the biodiversity and its conservation

**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:**

At the end of this unit, the students will be able to

- To know about the various sources of pollution.
- To know about the various sources of solid waste and preventive measures.
- To know about 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, watershed management – Resettlement and rehabilitation of people; its problems and concerns. Case studies – Environmental ethics: Issues and possible solutions – Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies – Wasteland reclamation. – Consumerism and waste products. – Environment Protection Act. – Air (Prevention and Control of Pollution) Act. – Water (Prevention and control of Pollution) Act – Wildlife Protection Act – Forest Conservation Act – Issues involved in enforcement of environmental legislation – Public awareness.

**Learning outcomes:**

At the end of this unit, the students will be able to

- To know about the social issues related to environment and their protection acts.
- To know about the various sources of conservation of natural resources.
- To know about the wild life protection and forest conservation acts.

## 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 – Case studies.

**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:

At the end of this unit, the students will be able to

- To know about the population explosion and family welfare programmes.
- To identify the natural assets and related case studies.

### TEXT BOOKS:

1. Text book of Environmental Studies for Undergraduate Courses Erach Bharucha for University Grants Commission, Universities Press.
2. Palaniswamy, "Environmental Studies", Pearson education
3. S.Azeem Unnisa, "Environmental Studies" Academic Publishing Company
4. K.Raghavan Nambiar, "Text book of Environmental Studies for Undergraduate Courses as per UGC model syllabus", Scitech Publications (India), Pvt. Ltd.


### REFERENCES:

1. Deeksha Dave and E.Sai Baba Reddy, "Textbook of Environmental Science", Cengage Publications.
2. M.Anji Reddy, "Text book of Environmental Sciences and Technology", BS Publication.
3. J.P.Sharma, Comprehensive Environmental studies, Laxmi publications.
4. J. Glynn Henry and Gary W. Heinke, "Environmental Sciences and Engineering", Prentice hall of India Private limited
5. G.R.Chatwal, "A Text Book of Environmental Studies" Himalaya Publishing House
6. Gilbert M. Masters and Wendell P. Ela, "Introduction to Environmental Engineering and Science, Prentice hall of India Private limited.

### Course Outcomes:

At the end of the course, the student will be able to

- Grasp multidisciplinary nature of environmental studies and various renewable and nonrenewable resources.
- Understand flow and bio-geo- chemical cycles and ecological pyramids.
- Understand various causes of pollution and solid waste management and related preventive measures.
- About the rainwater harvesting, watershed management, ozone layer depletion and waste land reclamation.
- Casus of population explosion, value education and welfare programmes.

  
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(19A01704a) AIR POLLUTION AND CONTROL  
OPEN ELECTIVE-III

**Course Objectives:**

- To identify the sources of air pollution
- To know the composition and structure of atmosphere
- To know the pollutants dispersion models
- To understand the working of air pollution control equipments
- To identify the sources of noise pollution and their controlling methods

**UNIT I**

Introduction: sources, effects on – ecosystems, characterization of atmospheric pollutants, air pollution episodes of environmental importance. Indoor Air Pollution– sources, effects.

**Learning Outcomes:**

After completing this Unit, students will be able to

- To understand the character of atmospheric pollutants and their effects

**UNIT II**

Meteorology - composition and structure of the atmosphere, wind circulation, solar radiation, lapse rates, atmospheric stability conditions, wind velocity profile, Maximum Mixing Depth (MMD), Temperature Inversions, Wind rose diagram.

**Learning Outcomes:**

After completing this Unit, students will be able to

- Understand the composition and structure and structure of atmosphere
- To understand the maximum mixing depth and windrose diagram

**UNIT III**

General characteristics of stack emissions, plume behaviour, heat island effect. Pollutants dispersion models – description and application of point, line and areal sources. Monitoring of particulate matter and gaseous pollutants –respirable, non-respirable and nano - particulate matter. CO, CO<sub>2</sub>, Hydrocarbons (HC), SOX and NOX, photochemical oxidants.

**Learning Outcomes:**

After completing this Unit, students will be able to

- To know about the general characteristics of stack emissions and their behavior
- To understand the monitoring of particulate matter and gaseous pollutants

**UNIT IV**

Air Pollution Control equipment for particulate matter & gaseous pollutants– gravity settling chambers, centrifugal collectors, wet collectors, fabric filters, electrostatic precipitator (ESP). – Adsorption, Absorption, Scrubbers, Condensation and Combustion.

**Learning Outcomes:**

After completing this Unit, students will be able to

- To know about the various air pollution control equipments

**UNIT V**

Noise - sources, measurements, effects and occupational hazards. Standards, Noise mapping, Noise attenuation equations and methods, prediction equations, control measures, Legal aspects of noise.

**Learning Outcomes:**


After completing this Unit, students will be able to

- To know about the noise sources, mapping, prediction equations etc.,

**Course Outcomes:**

Upon the successful completion of this course, the students will be able to:

- Identify the sources of air pollution
- Understand the composition and structure and structure of atmosphere.
- Know about the general characteristics of stack emissions and their behavior
- Know about the general characteristics of stake emission and their behavior
- Know about the noise sources, mapping, prediction equations etc.,

  
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ANANTHAPURAMU – 515 002 (A.P) INDIA

**CIVIL ENGINEERING**

Course Code	Environmental Engineering - I		L	T	P	C
20A01404T			3	0	0	3
Pre-requisite	NIL	Semester	IV			
<b>Course Objectives:</b>						
<ul style="list-style-type: none"> <li>• To teach requirements of water and its treatment.</li> <li>• To impart knowledge on sewage treatment methodologies.</li> <li>• To provide facts on Air pollution and control.</li> <li>• To enable with design concepts of wastewater treatment UNITS</li> <li>• To throw light on importance of plumbing.</li> <li>•</li> </ul>						
<b>Course Outcomes (CO):</b>						
At the end of the course, the student will be able to:						
<ul style="list-style-type: none"> <li>• Understand about quality of water and purification process</li> <li>• Select appropriate technique for treatment of wastewater.</li> <li>• Assess the impact of air pollution</li> <li>• Understand consequences of solid waste and its management</li> <li>• Design domestic plumbing systems</li> </ul>						
UNIT - I	Water quality and treatment:					
Water quality: Sources of Water and quality issues, water quality requirement for different beneficial uses, Water quality standards, water quality indices, water safety plans, Water Supply systems, Need for planned water supply schemes, Water demand industrial and agricultural water requirements, Components of water supply system; Transmission of water, Distribution system, Various valves used in W/S systems, service reservoirs and design. Water Treatment: aeration, sedimentation, coagulation flocculation, filtration, disinfection, advanced treatments like adsorption, ion exchange, membrane processes						
UNIT – II	Sewage and Treatment					
Domestic and Storm water, Quantity of Sewage, Sewage flow variations. Conveyance of sewage-Sewers, shapes design parameters, operation and maintenance of sewers, Sewage pumping; Sewerage, Sewer appurtenances, Design of sewerage systems. Small bore systems, Storm Water-Quantification and design of Storm water; Sewage and Sullage, Pollution due to improper disposal of sewage, National River cleaning plans, Wastewater treatment – COD & BOD- aerobic and anaerobic treatment systems, suspended and attached growth systems, recycling of sewage – quality requirements for various purposes.						
UNIT - III	Air Pollution					
Composition and properties of air, Quantification of air pollutants, Monitoring of air pollutants, Air pollution- Occupational hazards, Urban air pollution automobile pollution, Chemistry of combustion, Automobile engines, quality of fuel, operating conditions and interrelationship. Air quality standards, Control measures for Air pollution, construction and limitations.						
UNIT - IV	Solid Waste Management					
Municipal solid waste-Composition - chemical and physical parameters - Collection, transport, treatment and disposal. waste from commercial establishments and other urban zonesconstruction activities - biomedical wastes, Effects of solid waste on environment. Disposal of solid waste-Disposal methods- Integrated solid waste management.						

  
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**CIVIL ENGINEERING**

<b>UNIT - V</b>	<b>Domestic Plumbing</b>
Types of home plumbing systems for water supply and waste water disposal, high rise building plumbing-Pressure reducing valves, Break pressure tanks, Storage tanks, Building drainage for high rise buildings, various kinds of fixtures and fittings. Role of Government authorities in water supply, sewerage disposal	
<b>Textbooks:</b>	
<ol style="list-style-type: none"> <li>1. G. S. Birdi, "Water supply and sanitary Engineering", Dhanpat Rai &amp; Sons Publishers.</li> <li>2. Peavy, H.S, Rowe, D. R. Tchobanoglous, "Environmental Engineering", Mc-Graw – Hill International Editions, New York 1985.</li> </ol>	
<b>Reference Books:</b>	
<ol style="list-style-type: none"> <li>1. B.C. Punmia, Ashok Jain &amp; Arun Jain, "Water Supply Engineering", Vol. I, Waste water Engineering, Vol. II, Laxmi Publications Pvt. Ltd, New Delhi.</li> <li>2. MetCalf and Eddy, "Wastewater Engineering", Treatment, Disposal and Reuse, Tata McGraw- Hill, New Delhi.</li> <li>3. S. M. Patil, "Plumbing Engineering Theory, Design and Practice", 1999.</li> <li>4. K. N. Duggal, "Elements of Environmental Engineering", S. Chand Publishers.</li> </ol>	
<b>Online Learning Resources:</b>	
<ol style="list-style-type: none"> <li>1. <a href="https://nptel.ac.in/courses/103/107/103107084/">https://nptel.ac.in/courses/103/107/103107084/</a></li> <li>2. <a href="https://ocw.mit.edu/courses/environment-courses/">https://ocw.mit.edu/courses/environment-courses/</a></li> <li>3. <a href="https://learningpath.org/articles/Free_Online_Environmental_Engineering_Courses_from_Top_Universities.html">https://learningpath.org/articles/Free_Online_Environmental_Engineering_Courses_from_Top_Universities.html</a></li> <li>4. <a href="https://nptel.ac.in/noc/courses/noc19/SEM2/noc19-ge22/">https://nptel.ac.in/noc/courses/noc19/SEM2/noc19-ge22/</a></li> </ol>	

  
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**CIVIL ENGINEERING**

Course Code	ENVIRONMENTAL ENGINEERING LAB		L	T	P	C
20A01404P			0	0	3	1.5
Pre-requisite	NIL	Semester	IV			
<b>Course Objectives:</b>						
The object of the course is to enable the students to identify the characteristics of water sample						
<b>Course Outcomes (CO):</b>						
At the end of the course, the student will be able to Understand about quality of water standards						
<b>List of Experiments:</b>						
<ol style="list-style-type: none"> <li>1. Determination of pH and Electrical Conductivity (Salinity) of Water and Soil.</li> <li>2. Determination and estimation of Total Hardness–Calcium &amp; Magnesium.</li> <li>3. Determination of Alkalinity/Acidity</li> <li>4. Determination of Chlorides in water and soil</li> <li>5. Determination and Estimation of total solids, organic solids and inorganic solids and settleable solids by Imhoff Cone.</li> <li>6. Determination of Iron.</li> <li>7. Determination of Dissolved Oxygen with D.O. Meter &amp; Winklers Method and B.O.D.</li> <li>8. Determination of N, P, K values in solid waste</li> <li>9. Physical parameters – Temperature, Colour, Odour, Turbidity, Taste.</li> <li>10. Determination of C.O.D.</li> <li>11. Determination of Optimum coagulant dose.</li> <li>12. Determination of Chlorine demand.</li> <li>13. Presumptive Coliform test.</li> </ol>						
<b>References:</b>						
1.G. S. Birdi “Water supply and sanitary Engineering”, Dhanpat Rai & Sons Publishers. 2.Peavy, H.S, Rowe, D. R. Tchobanoglous, “Environmental Engineering”, Mc-Graw –Hill International Editions, New York 1985						

  
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**B.Tech (CE)- III-II Sem**

**L T P C**  
**3 0 0 3**

**(20A01604c) ENVIRONMENTAL IMPACT ASSESSMENT**  
**(Professional Elective Course-II)**

**Course Objectives:**

- To impart knowledge on different concepts of Environmental Impact Assessment.
- To teach procedures of risk assessment.
- To teach the EIA methodologies and the criterion for selection of EIA methods.
- To teach the procedures for environmental clearances and audit.
- To know the impact quantification of various projects on the environment.

**Course Outcomes:**

- To prepare EMP, EIS, and EIA report.
- To identify the risks and impacts of a project.
- To choose an appropriate EIA methodology.
- To evaluation the EIA report.
- To Estimate the cost benefit ratio of a project.

**UNIT I Concepts and methodologies of EIA**

Initial environmental Examination, Elements of EIA, - Factors affecting E-I-A Impact evaluation and analysis, preparation of Environmental Base map, Classification of environmental parameters- Criteria for the selection of EIA Methodology, E I A methods, Ad-hoc methods, matrix methods, Network method Environmental Media Quality Index method, overlay methods and cost/benefit Analysis.

**UNIT II Impact of Developmental Activities and Land Use**

Introduction and Methodology for the assessment of soil and ground water, Delineation of study area, Identification of actives. Procurement of relevant soil quality, Impact prediction, Assessment of Impact significance, Identification and Incorporation of mitigation measures. E I A in surface water, Air and Biological environment: Methodology for the assessment of Impacts on surface water environment, Air pollution sources, Generalized approach for assessment of Air pollution Impact.

**UNIT III Assessment of Impact on Vegetation, Wildlife and Risk Assessment**

Introduction - Assessment of Impact of development Activities on Vegetation and wildlife, environmental Impact of Deforestation - Causes and effects of deforestation - Risk assessment and treatment of uncertainty-key stages in performing an Environmental Risk Assessment-Advantages of Environmental Risk Assessment

**UNIT IV Environmental Audit**

Introduction - Environmental Audit & Environmental legislation objectives of Environmental Audit, Types of environmental Audit, Audit protocol, stages of Environmental Audit, onsite activities, evaluation of Audit data and preparation of Audit report.

**UNIT V Environmental Acts and Notifications**

The Environmental protection Act, The water preservation Act, The Air (Prevention & Control of pollution Act), Wild life Act - Provisions in the EIA notification, procedure for environmental clearance, procedure for conducting environmental impact assessment report- Evaluation of EIA report. Environmental legislation objectives, evaluation of Audit data and preparation of Audit report. Post Audit activities, Concept of ISO and ISO 14000.

**Textbooks:**

1. Environmental Impact Assessment, by Canter Larry W., McGraw-Hill education Edi (1996)
2. Environmental Impact Assessment Methodologies, by Y. Anjaneyulu, B. S. Publication, Hyderabad 2<sup>nd</sup> edition 2011

**Reference Books:**

1. Environmental Engineering, by Peavy, H. S, Rowe, D. R, Tchobanoglous, G, Mc-Graw Hill International Editions, New York 1985
2. Environmental Science and Engineering, by J. Glynn and Gary W. Hein Ke, Prentice Hall Publishers
3. Environmental Science and Engineering, by Suresh K. Dhaneja, S.K., Katania & Sons Publication, ND

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(19A01802b) GLOBAL WARMING AND CLIMATE CHANGES  
OPEN ELECTIVE-IV

**Course Objectives:**

The objective of this course is to:

- To know the basics, importance of global warming.
- To know the concepts of mitigation measures against global warming
- To know the impacts of climate changes

**UNIT I**

**EARTH'S CLIMATE SYSTEM:**

Introduction to environment, Ozone, ozone layer and its functions, Ozone depletion and ozone hole, Vienna convention and Montreal protocol, Green house gases and green house effect, Hydrological cycle and Carbon cycle, Global warming and its impacts

**Learning Outcomes:**

After completing this Unit, students will be able to

- To identify the importance of Ozone and effect of green house gases
- To know the effect of global warming

**UNIT II**

**ATMOSPHERE & ITS COMPONENTS:** Atmosphere and its layers-Characteristics of Atmosphere - Structure of Atmosphere - Composition of Atmosphere - Atmospheric stability - Temperature profile of the atmosphere - Temperature inversion and effects of inversion on pollution dispersion.

**Learning Outcomes:**

After completing this Unit, students will be able to

- To know about the layers of atmosphere and their characteristics

**UNIT III**

**IMPACTS OF CLIMATE CHANGE :** Causes of Climate change - Change of Temperature in the environment - Melting of ice and sea level rise - Impacts of Climate Change on various

sectors - Projected impacts for different regions, uncertainties in the projected impacts and risk of irreversible changes.

**Learning Outcomes:**

After completing this Unit, students will be able to

- To know about the causes of climate change and its effects on various sectors.

**UNIT IV**

**OBSERVED CHANGES AND ITS CAUSES:** Climate change and Carbon credits-Clean Development Mechanism (CDM), CDM in India - Kyoto Protocol - Intergovernmental Panel on Climate Change (IPCC) - Climate Sensitivity - Montreal Protocol - United Nations Framework Convention on Climate Change (UNFCCC) - Global change in temperature and climate and changes within India

**Learning Outcomes:**

After completing this Unit, students will be able to

- To know about the causes of climate change and carbon credits, effect of change in temperature and climate on india.


**UNIT V**

**CLIMATE CHANGE AND MITIGATION MEASURES:** CDM and Carbon Trading - Clean Technology, biodiesel, compost, biodegradable plastics - Renewable energy usage as an alternative - Mitigation Technologies and Practices within India and around the world - Non-renewable energy supply to all sectors - Carbon sequestration - International and regional cooperation for waste disposalbiomedical wastes, hazardous wastes, e-wastes, industrial wastes, etc.,

**Learning Outcomes:**

After completing this Unit, students will be able to

- To know about the clean technology, use of renewable energy, mitigation technologies and their practices.

  
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(19A01801c1) ENVIRONMENTAL IMPACT ASSESSMENT  
PROFESSIONAL ELECTIVE-IV

**Course Objectives:**

- To impart knowledge on different concepts of Environmental Impact Assessment
- To teach procedures of risk assessment
- To teach the EIA methodologies and the criterion for selection of EIA methods
- To teach the procedures for environmental clearances and audit

**UNIT -I:**

**Concepts and methodologies of EIA**

Initial environmental Examination, Elements of EIA, - factors affecting E-I-A Impact evaluation and analysis, preparation of Environmental Base map, Classification of environmental parameters- Criteria for the selection of EIA Methodology, E I A methods, Ad-hoc methods, matrix methods, Network method Environmental Media Quality Index method, overlay methods and cost/benefit Analysis.

**Learning Outcomes:**

After completion of this unit student will

- Understand the elements of EIA.
- Explain the criteria for selection of EIA methodology

**UNIT - II**

**Impact of Developmental Activities and Land Use**

Introduction and Methodology for the assessment of soil and ground water, Delineation of study area, Identification of activities. Procurement of relevant soil quality, Impact prediction, Assessment of Impact significance, Identification and Incorporation of mitigation measures. E I A in surface water, Air and Biological environment: Methodology for the assessment of Impacts on surface water environment, Air pollution sources, Generalized approach for assessment of Air pollution Impact.

**Learning Outcomes:**

After completion of this unit student will

- Study the factors causing impact of development activities
- Decide mitigation measures of pollution on environment

**UNIT -III**

**Assessment of Impact on Vegetation, Wildlife and Risk Assessment**

Introduction - Assessment of Impact of development Activities on Vegetation and wildlife, environmental Impact of Deforestation – Causes and effects of deforestation - Risk assessment and treatment of uncertainty-key stages in performing an Environmental Risk Assessment-advantages of Environmental Risk Assessment

**Learning Outcomes:**

After completion of this unit student will

- Understand effect of development activities on environment.
- Know the design procedures for assessment of environmental risk

**UNIT – IV**

**Environmental audit:**

Introduction - Environmental Audit & Environmental legislation objectives of Environmental Audit, Types of environmental Audit, Audit protocol, stages of Environmental Audit, onsite activities, evaluation of Audit data and preparation of Audit report.

**Learning Outcomes:**

After completion of this unit student will

- Learn about the process of environmental auditing.
- Understand procedures for preparation of environmental audit report

**UNIT – V**

**Environmental Acts and Notifications:**

The Environmental protection Act, The water preservation Act, The Air (Prevention & Control of pollution Act), Wild life Act - Provisions in the EIA notification, procedure for environmental clearance, procedure for conducting environmental impact assessment report-evaluation of EIA report. Environmental legislation objectives, evaluation of Audit data and preparation of Audit report. Post Audit activities, Concept of ISO and ISO 14000.

**Learning Outcomes:**

After completion of this unit student will

- Understand the importance of environmental protection acts
- Explain acts and notifications in Environmental legislation

**Course Outcomes**

At the end of the course, the students will be able to:

- Prepare EMP, EIS, and EIA report.
- Identify the risks and impacts of a project.
- Choose an appropriate EIA methodology.
- Evaluation the EIA report.





# SIDDARTHA EDUCATIONAL ACADEMY GROUP OF INSTITUTIONS

(An Integrated Campus for Engineering & MBA)

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Near C. Gollapalli, Tirupati – 517 505, Andhra Pradesh

1.3.1 Institution Integrates cross cutting issues relevant to professional Ethics, Gender, Human values, Environment and Sustainability (2021-22)

Cross Cutting issue	Regulation	Course code	Name of the Course	Year of study	Academic year
Human values and Professional Ethics	R20	20A52101T	Communicative English	I.I ( CIVIL, EEE, ECE )	2021-22
	R20	20A52101P	Communicative English LAB	I.I ( CIVIL, EEE, ECE )	2021-22
	R20	20A52201	Universal Human Values	I.II ( ME, CSE )	2021-22
	R20	20A52101T	Communicative English	I.II ( ME,CSE)	2021-22
	R20	20A52101P	Communicative English LAB	I.II ( ME,CSE )	2021-22
	R20	20A52201	Universal Human Values	II.I ( CIVIL,EEE,ECE )	2021-22
	R19	19A99501	Constitution of India	III-I(CE,ME)	2021-22
	R19	19A52506A	Technical communication & Presentation skills	III-I(CE,EEE,ECE,CS E)	2021-22
	R19	19A52601T	English Language Skills	III-I(EEE,ECE)	2021-22
	R19	19A52601P	English Language Skills Lab	III-I(EEE,ECE)	2021-22
	R20	20A52302	Organizational Behaviour	II-I(EEE,ECE)	2021-22
	R15	15A52601	Management Science	IV-I(ME,CSE)	2021-22
	R20	20A52401	Soft Skills	II-II(CE,ME,ECE)	2021-22
	R19	19A52604A	Soft Skills	III-II(CE,EEE,ME,EC E,CSE)	2021-22
	R19	19A52601T	English Language Skills	III-II(CE,ME,CSE)	2021-22
	R19	19A52602A	Entrepreneurship & Incubation	III-II(CE,EEE,ME,EC E,CSE)	2021-22
	R19	19A99501	Constitution of India	III-II(EEE,ECE)	2021-22
	R20	20A52302	Organizational Behaviour	II-II(ME,CSE)	2021-22
	R19	19A52601P	English Language Skills Lab	II(CE,ME,CSE)	2021-22
	R19	R19A99601	Research Methodology	II(CE,ME,CSE)	2021-22

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	R21	21DAC101 a	English for Research paper Writing	M.Tech I- I(ES,CSE)	2021-22
	R21	21DRM101	Research Methodology & IPR	M.Tech I-I(SE)	2021-22
Environment and Sustainabilit y	R20	20A99201	Environment Science	I.II ( CE, EEE,ECE )	2021-22
	R19	19A01505C	Environmental Pollution Control	III-I(CE)	2021-22
	R19	19A01508	Environmental Engineering Lab	III-I(CE)	2021-22
	R19	19A01502	Water Resources Engineering	III-I(CE)	2021-22
	R15	15A01703	Environmental Engineering	IV-I(CE)	2021-22
	R15	15A01712	Environmental Engineering Lab	IV-I(CE)	2021-22
	R15	15A01704	Water Resources Engineering-2	IV-I(CE)	2021-22
	R20	20A99201	Environment Science	II-I(ME,CSE)	2021-22
	R20	20A01404T	Environmental Engineering-1	II-II(CE)	2021-22
	R20	20A01404P	Environmental Engineering Lab	II-II(CE)	2021-22
	R19	19A01603c	Environmental Air Pollution	III-II(CE)	2021-22



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(20A5210IT) COMMUNICATIVE ENGLISH  
(Common to All Branches of Engineering)

**Course Objectives**

- Facilitate effective listening skills for better comprehension of academic lectures and English spoken by native speakers
- Focus on appropriate reading strategies for comprehension of various academic texts and authentic materials
- Help improve speaking skills through participation in activities such as role plays, discussions and structured talks/oral presentations
- Impart effective strategies for good writing and demonstrate the same in summarizing, writing well organized essays, record and report useful information
- Provide knowledge of grammatical structures and vocabulary and encourage their appropriate use in speech and writing

**UNIT -1**

**Lesson: On the Conduct of Life: William Hazlitt**

**Listening:** Identifying the topic, the context and specific pieces of information by listening to short audio texts and answering a series of questions. **Speaking:** Asking and answering general questions on familiar topics such as home, family, work, studies and interests; introducing oneself and others. **Reading:** Skimming to get the main idea of a text; scanning to look for specific pieces of information. **Reading for Writing :** Beginnings and endings of paragraphs - introducing the topic, summarizing the main idea and/or providing a transition to the next paragraph. **Grammar and Vocabulary:** Parts of Speech, Content words and function words; word forms: verbs, nouns, adjectives and adverbs; nouns: countable and uncountable; singular and plural; basic sentence structures; simple question form - wh-questions; word order in sentences.

**Learning Outcomes**

At the end of the module, the learners will be able to

- Understand social or transactional dialogues spoken by native speakers of English and identify the context, topic, and pieces of specific information
- Ask and answer general questions on familiar topics and introduce oneself/others
- Employ suitable strategies for skimming and scanning to get the general idea of a text and locate specific information
- Recognize paragraph structure and be able to match beginnings/endings/headings with paragraphs
- Form sentences using proper grammatical structures and correct word forms

**UNIT -2**

**Lesson: The Brook: Alfred Tennyson**

**Listening:** Answering a series of questions about main idea and supporting ideas after listening to audio texts. **Speaking:** Discussion in pairs/small groups on specific topics followed by short structured

talks. **Reading:** Identifying sequence of ideas; recognizing verbal techniques that help to link the ideas in a paragraph together. **Writing:** Paragraph writing (specific topics) using suitable cohesive devices; mechanics of writing - punctuation, capital letters. **Grammar and Vocabulary:** Cohesive devices - linkers, sign posts and transition signals; use of articles and zero article; prepositions.

### Learning Outcomes

At the end of the module, the learners will be able to

- Comprehend short talks on general topics
- Participate in informal discussions and speak clearly on a specific topic using suitable discourse markers
- Understand the use of cohesive devices for better reading comprehension
- Write well structured paragraphs on specific topics
- Identify basic errors of grammar/ usage and make necessary corrections in short texts

## UNIT -3

### Lesson: The Death Trap: Saki

**Listening:** Listening for global comprehension and summarizing what is listened to. **Speaking:** Discussing specific topics in pairs or small groups and reporting what is discussed. **Reading:** Reading a text in detail by making basic inferences -recognizing and interpreting specific context clues; strategies to use text clues for comprehension. **Writing:** Summarizing, Paragraph Writing **Grammar and Vocabulary:** Verbs - tenses; subject-verb agreement; direct and indirect speech, reporting verbs for academic purposes.

### Learning Outcomes

At the end of the module, the learners will be able to

- Comprehend short talks and summarize the content with clarity and precision
- Participate in informal discussions and report what is discussed
- Infer meanings of unfamiliar words using contextual clues
- Write summaries based on global comprehension of reading/listening texts
- Use correct tense forms, appropriate structures and a range of reporting verbs in speech and writing

## UNIT-4

### Lesson: Innovation: Muhammad Yunus

**Listening:** Making predictions while listening to conversations/ transactional dialogues without video; listening with video. **Speaking:** Role plays for practice of conversational English in academic contexts (formal and informal) - asking for and giving information/directions. **Reading:** Studying the use of graphic elements in texts to convey information, reveal trends/patterns/relationships, communicate processes or display complicated data. **Writing:** Letter Writing: Official Letters/Report Writing **Grammar and Vocabulary:** Quantifying expressions - adjectives and adverbs; comparing and contrasting; Voice - Active & Passive Voice



## Learning Outcomes

At the end of the module, the learners will be able to

- Infer and predict about content of spoken discourse
- Understand verbal and non-verbal features of communication and hold formal/informal conversations
- Interpret graphic elements used in academic texts
- Produce a coherent paragraph interpreting a figure/graph/chart/table
- Use language appropriate for description and interpretation of graphical elements

## UNIT -5

### Lesson: Politics and the English Language: George Orwell

Listening: Identifying key terms, understanding concepts and answering a series of relevant questions that test comprehension. Speaking: Formal oral presentations on topics from academic contexts - without the use of PPT slides. Reading: Reading for comprehension. Writing: Writing structured essays on specific topics using suitable claims and evidences. Grammar and Vocabulary: Editing short texts –identifying and correcting common errors in grammar and usage (articles, prepositions, tenses, subject verb agreement)

## Learning Outcomes

At the end of the module, the learners will be able to


- Take notes while listening to a talk/lecture and make use of them to answer questions
- Make formal oral presentations using effective strategies
- Comprehend, discuss and respond to academic texts orally and in writing
- Produce a well-organized essay with adequate support and detail
- Edit short texts by correcting common errors

## Text Book:

1. Language and Life: A Skills Approach- I Edition 2019, Orient Black Swan

## Reference Books:

1. Bailey, Stephen. Academic writing: A handbook for international students. Routledge, 2014.
2. Chase, Becky Tarver. Pathways: Listening, Speaking and Critical Thinking. Heinley ELT; 2nd Edition, 2018.
3. Raymond Murphy's English Grammar in Use Fourth Edition (2012) E-book
4. Hewings, Martin. Cambridge Academic English (B2). CUP, 2012.
5. Oxford Learners Dictionary, 12<sup>th</sup> Edition, 2011
6. Norman Lewis Word Power Made Easy- The Complete Handbook for Building a Superior Vocabulary (2014)
7. Speed Reading with the Right Brain: Learn to Read Ideas Instead of Just Words by David Butler

  
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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**  
**B.Tech (ECE)– I Sem**

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**(20A52101P) COMMUNICATIVE ENGLISH LAB**  
(Common to All Branches of Engineering)

**Course Objectives**

- students will be exposed to a variety of self instructional, learner friendly modes of language learning
- students will learn better pronunciation through stress, intonation and rhythm
- students will be trained to use language effectively to face interviews, group discussions, public speaking
- students will be initiated into greater use of the computer in resume preparation, report writing, format making etc

**List of Topics**

1. Phonetics
2. Reading comprehension
3. Describing objects/places/persons
4. Role Play or Conversational Practice
5. JAM
6. Etiquettes of Telephonic Communication
7. Information Transfer
8. Note Making and Note Taking
9. E-mail Writing
10. Group Discussions-1
11. Resume Writing
12. Debates
13. Oral Presentations
14. Poster Presentation
15. Interviews Skills-1

**Suggested Software**

Orel, Walden Infotech, Young India Films

**Reference Books**

1. Bailey, Stephen. Academic writing: A handbook for international students. Routledge, 2014.
2. Chase, Becky Tarver. Pathways: Listening, Speaking and Critical Thinking. Heinley ELT; 2nd Edition, 2018.
3. Skillful Level 2 Reading & Writing Student's Book Pack (B1) Macmillan Educational.
4. Hewings, Martin. Cambridge Academic English (B2). CUP, 2012.
5. A Textbook of English Phonetics for Indian Students by T.Balasubramanyam

**Web Links**

[www.esl-lab.com](http://www.esl-lab.com)  
[www.englishmedialab.com](http://www.englishmedialab.com)  
[www.englishinteractive.net](http://www.englishinteractive.net)

  
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### Course Outcomes

After completing the course, the student will be able to

- Listening and repeating the sounds of English Language
- Understand the different aspects of the English language
- proficiency with emphasis on LSRW skills
- Apply communication skills through various language learning activities
- Analyze the English speech sounds, stress, rhythm, intonation and syllable
- Division for better listening and speaking comprehension.
- Evaluate and exhibit acceptable etiquette essential in social and professional settings
- Create awareness on mother tongue influence and neutralize it in order to
- Improve fluency in spoken English.

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(20A52201) UNIVERSAL HUMAN VALUES  
(Common to all branches)

**Course Objective:**

The objective of the course is four fold:

- Development of a holistic perspective based on self-exploration about themselves (human being), family, society and nature/existence.
- Understanding (or developing clarity) of the harmony in the human being, family, society and nature/existence
- Strengthening of self-reflection.
- Development of commitment and courage to act.

**COURSE TOPICS:**

The course has 28 lectures and 14 practice sessions in 5 modules:

**Unit 1:**

**Course Introduction - Need, Basic Guidelines, Content and Process for Value Education**

- Purpose and motivation for the course, recapitulation from Universal Human Values-I
- Self-Exploration-what is it? - Its content and process; 'Natural Acceptance' and Experiential Validation- as the process for self-exploration
- Continuous Happiness and Prosperity- A look at basic Human Aspirations
- Right understanding, Relationship and Physical Facility- the basic requirements for fulfilment of aspirations of every human being with their correct priority
- Understanding Happiness and Prosperity correctly- A critical appraisal of the current scenario
- Method to fulfil the above human aspirations: understanding and living in harmony at various levels.

Include practice sessions to discuss natural acceptance in human being as the innate acceptance for living with responsibility (living in relationship, harmony and co-existence) rather than as arbitrariness in choice based on liking-disliking

**Unit 2:**

**Understanding Harmony in the Human Being - Harmony in Myself!**

- Understanding human being as a co-existence of the sentient 'I' and the material 'Body'
- Understanding the needs of Self ('I') and 'Body' - happiness and physical facility
- Understanding the Body as an instrument of 'I' (I being the doer, seer and enjoyer)



- Understanding the characteristics and activities of 'I' and harmony in 'I'
- Understanding the harmony of I with the Body: Sanyam and Health; correct appraisal of Physical needs, meaning of Prosperity in detail
- Programs to ensure Sanyam and Health.

Include practice sessions to discuss the role others have played in making material goods available to me. Identifying from one's own life. Differentiate between prosperity and accumulation. Discuss program for ensuring health vs dealing with disease

#### Unit 3:

#### **Understanding Harmony in the Family and Society- Harmony in Human- Human Relationship**

- Understanding values in human-human relationship; meaning of Justice (nine universal values in relationships) and program for its fulfilment to ensure mutual happiness; Trust and Respect as the foundational values of relationship
- Understanding the meaning of Trust; Difference between intention and competence
- Understanding the meaning of Respect, Difference between respect and differentiation; the other salient values in relationship
- Understanding the harmony in the society (society being an extension of family): Resolution, Prosperity, fearlessness (trust) and co-existence as comprehensive Human Goals
- Visualizing a universal harmonious order in society- Undivided Society, Universal Order- from family to world family.

Include practice sessions to reflect on relationships in family, hostel and institute as extended family, real life examples, teacher-student relationship, goal of education etc. Gratitude as a universal value in relationships. Discuss with scenarios. Elicit examples from students' lives

#### Unit 4:

#### **Understanding Harmony in the Nature and Existence - Whole existence as Coexistence**

- Understanding the harmony in the Nature
- Interconnectedness and mutual fulfilment among the four orders of nature- recyclability and self-regulation in nature
- Understanding Existence as Co-existence of mutually interacting units in all- pervasive space
- Holistic perception of harmony at all levels of existence.

Include practice sessions to discuss human being as cause of imbalance in nature (film "Home" can be used), pollution, depletion of resources and role of technology etc.

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**Course Objectives :**

The objective of this course is

- To Enable the student to understand the importance of constitution
- To understand the structure of executive, legislature and judiciary
- To understand philosophy of fundamental rights and duties
- To understand the autonomous nature of constitutional bodies like Supreme Court and high court controller and auditor general of India and Election Commission of India.
- To understand the central-state relation in financial and administrative control

**Syllabus**

**UNIT-I**

Introduction to Indian Constitution – Constitution -Meaning of the term - Indian Constitution- Sources and constitutional history - Features– Citizenship – Preamble - Fundamental Rights and Duties - Directive Principles of State Policy.

**LearningOutcomes:-**

After completion of this unit student will

- Understand the concept of Indian constitution
- Apply the knowledge on directive principle of state policy
- Analyze the History and features of Indian constitution
- Learn about Preamble, Fundamental Rights and Duties

**UNIT-II**

Union Government and its Administration Structure of the Indian Union - Federalism - Centre-State relationship – President's Role, power and position - PM and Council of ministers - Cabinet and Central Secretariat –Lok Sabha - Rajya Sabha - The Supreme Court and High Court - Powers and Functions

**LearningOutcomes:-**

After completion of this unit student will

- Understand the structure of Indian government



- Differentiate between the state and central government
- Explain the role of President and Prime Minister
- Know the Structure of supreme court and High court

### UNIT-III

State Government and its Administration - Governor - Role and Position -CM and Council of ministers - State Secretariat-Organization Structure and Functions

#### Learning Outcomes:-

After completion of this unit student will

- Understand the structure of state government
- Analyze the role of Governor and Chief Minister
- Explain the role of State Secretariat
- Differentiate between structure and functions of state secretariat

### UNIT-IV

Local Administration - District's Administration Head - Role and Importance - Municipalities - Mayor and role of Elected Representatives -CEO of Municipal Corporation Pachayati Raj - Functions- PRI -Zilla Parishath - Elected officials and their roles - CEO,Zilla Parishath - Block level Organizational Hierarchy - (Different departments) - Village level - Role of Elected and Appointed officials - Importance of grass root democracy

#### Learning Outcomes:-

After completion of this unit student will

- Understand the local Administration
- Compare and contrast district administration's role and importance
- Analyze the role of Mayor and elected representatives of Municipalities
- Learn about the role of Zilla Parishath block level organization

### UNIT-V

Election Commission - Election Commission- Role of Chief Election Commissioner and Election Commissionerate - State Election Commission -Functions of Commissions for the welfare of SC/ST/OBC and Women

#### Learning Outcomes:-

After completion of this unit student will

- Know the role of Election Commission

(19A52506a) TECHNICAL COMMUNICATION AND PRESENTATION SKILLS  
(OPEN ELECTIVE)

**Course Objectives:**

- To develop awareness in students of the relevance and importance of technical communication and presentation skills.
- To prepare the students for placements
- To sensitize the students to the appropriate use of non-verbal communication
- To train students to use language appropriately for presentations and interviews
- To enhance the documentation skills of the students with emphasis on formal and informal writing

**SYLLABUS**

**UNIT -1:**

**Basics of Technical Communication** – Introduction – Objectives & Characteristics of Technical Communication – Importance and need for Technical communication - LSRW Skills – Barriers to effective communication

**Learning Outcomes:**

At the end of the module, the learners will be able to

- Understand the importance of LSRW skills
- Identify and overcome the barriers to effective communication
- Realize the need and importance of technical communication

**UNIT -II**

**Informal and Formal Conversation** - Verbal and Non-verbal communication –Kinesics, Proxemics, Chronemics, Haptics, Paralanguage

**Learning Outcomes:**

At the end of the module, the learners will be able to

- State the difference between formal and informal conversation.
- Apply the knowledge of the difference between the verbal and non-verbal communication
- Evaluate the different aspects of non-verbal communication.

**UNIT -III**



1. Ashrif Rizvi, "Effective Technical Communication", TataMcGrahill, 2011
2. Meenakshi Raman & Sangeeta Sharma, "Technical Communication", 3<sup>rd</sup> Edition, O U Press 2015

#### REFERENCES:

1. Pushpalatha & Sanjay Kumar, "Communication Skills", Oxford Univsesity Press
2. Barron's/Books on TOEFL/GRE/GMAT/CAT/IELTS DELTA/Cambridge University Press.2012.
3. Butterfield Jeff, "Soft Skills for Everyone", Cengage Publications, 2011.
4. Universities Press (India) Pvt Ltd., "Management Shapers Series", Himayatnagar, Hyderabad 2008.
5. John Hughes & Andrew Mallett, "Successful Presentations"Oxford.
6. Edgar Thorpe and Showick Thorpe, "Winning at Interviews"Pearson
7. Munish Bhargava, "Winning Resumes and Successful Interviews", McGraw Hill

  
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(19A52601T) ENGLISH LANGUAGE SKILLS

**Introduction**

The course is designed to train students in receptive (listening and reading) as well as productive and interactive (speaking and writing) skills by incorporating a comprehensive, coherent and integrated approach that improves the learners' ability to effectively use English language skills in academic/ workplace contexts. The shift is from *learning about the language* to *using the language*. They should be able to express themselves clearly in speech and competently handle the writing tasks and verbal ability component of campus placement tests. Activity based teaching-learning methods would be adopted to ensure that learners would engage in actual use of language both in the classroom and laboratory sessions.

**Course Objectives**

- Facilitate active listening to enable inferential learning through expert lectures and talks
- Impart critical reading strategies for comprehension of complex texts
- Provide training and opportunities to develop fluency in English through participation in formal group discussions and presentations using audio-visual aids
- Demonstrate good writing skills for effective paraphrasing, argumentative essays and formal correspondence
- Encourage use of a wide range of grammatical structures and vocabulary in speech and writing

**UNIT- I**

**Text:**

1. **Lines Composed a Few Miles above Tintern Abbey - William Wordsworth**
2. **The Lotos-Eaters - Alfred Tennyson**

**Listening:** Listening to famous speeches for structure and style

**Speaking:** Oral presentations on general topics of interest.

**Reading:** Reading for meaning and pleasure – reading between the lines.

**Writing:** Appreciating and analyzing a poem –Paraphrasing, note-taking.

**Grammar and Vocabulary: Tenses (Advanced Level)** Correcting errors in punctuation - Word roots and affixes.

**Learning Outcomes**

At the end of the module, the learners will be able to



- Understand the purpose of rhythm and rhyme and the use of figures of speech in making the presentation lively and attractive
- Apply the knowledge of structure and style in a presentation, identify the audience and make note of key points
- Make formal structured presentations on general topics using grammatical understanding
- Prioritize information from reading texts after selecting relevant and useful points
- Paraphrase short academic texts using suitable strategies and conventions

## UNIT-II

**Text: The Model Millionaire – Oscar Wilde**

**Listening:** Following the development of theme; answering questions on key concepts after listening to stories online.

**Speaking:** Narrating personal experiences and opinions.

**Reading:** Reading for summarizing and paraphrasing; recognizing the difference between facts and opinions.

**Writing:** Summarizing, précis writing, letter and note-making

**Grammar and Vocabulary:** Subject-verb agreement, noun-pronoun agreement, collocations.

### Learning Outcomes

At the end of the module, the learners will be able to

- Comprehend academic lectures, take notes and answer questions
- Make formal structured presentations on academic topics
- Distinguish facts from opinions while reading
- Summarize and make a précis of reports
- Use correct English avoiding common errors in formal speech and writing

## UNIT- III

**Text: Speech at IIM Calcutta – Azim Premji**

**Listening:** Identifying views and opinions expressed by different speakers while listening to speeches.

**Speaking:** Small talks on general topics; agreeing and disagreeing, using claims and examples/ evidences for presenting views, opinions and position.

**Reading:** Identifying claims, evidences, views, opinions and stance/position.

**Writing:** Writing structured persuasive/argumentative essays on topics of general interest using suitable claims, examples and evidences.

**Grammar and Vocabulary:** The use of Active and passive Voice, vocabulary for academic texts

At the end of the module, the learners will be able to

- Critically follow and participate in a discussion
- Participate in group discussions using appropriate conventions and language strategies
- Comprehend complex texts and identify the author's purpose
- Produce logically coherent argumentative essays
- Use appropriate vocabulary to express ideas and opinions

#### UNIT –IV

##### **Text: A Biography of Steve Jobs**

**Listening:** Listening to identify important moments - Understanding inferences; processing of information using specific context clues from the audio.

**Speaking:** Group discussion; reaching consensus in group work (academic context).

**Reading:** Reading for inferential comprehension.

**Writing:** Applying for internship/ job - Writing one's CV/Resume and cover letter.

**Grammar and Vocabulary:** Phrasal verbs, phrasal prepositions and technical vocabulary.

##### **Learning Outcomes**

At the end of the module, the learners will be able to

- Draw inferences and conclusions using prior knowledge and verbal cues
- Express thoughts and ideas with acceptable accuracy and fluency
- Develop advanced reading skills for deeper understanding of texts
- Prepare a cv and write a cover letter to seek internship/ job
- Understand the use of technical vocabulary in academic writing

#### UNIT-V

##### **Text: How I Became a Public Speaker - George Bernard Shaw**

**Listening:** Understanding inferences - processing of explicit information presented in the text and implicit information inferable from the text or from previous/background knowledge.

**Speaking:** Formal team presentations on academic/ general topics.

**Reading:** Intensive and extensive reading.

**Writing:** Structure and contents of a Report – Abstract – Project report features.

**Grammar and Vocabulary:** Correcting common errors, improving vocabulary and avoiding clichés and jargons.

##### **Learning Outcomes:**

At the end of the module, the learners will be able to

- Develop advanced listening skills for in-depth understanding of academic texts
- Collaborate with a partner to make effective presentations
- Understand and apply the structure of project reports



- Demonstrate ability to use grammatically correct structures and a wide range of vocabulary

### Course Outcomes

At the end of the course, the learners will be able to

- Understand the context, topic, and pieces of specific information from social or transactional dialogues spoken by native speakers of English
- Apply grammatical structures to formulate sentences and correct word forms
- Analyze discourse markers to speak clearly on a specific topic in informal discussions
- Evaluate reading/listening texts and to write summaries based on global comprehension of these texts.
- Create a coherent paragraph interpreting a figure/graph/chart/table

### Prescribed Book

1. Forging Ahead: A Course Book for B.Tech Students. Orient BlackSwan, 2020.

### Reference Books

1. Bailey, Stephen. "Academic writing: A handbook for international students". Routledge, 2014.
2. Chase, Becky Tarver. Pathways: "Listening, Speaking and Critical Thinking" , Heinley ELT; 2<sup>nd</sup> Edition, 2018.
3. Skillful Level 2 Reading & Writing Student's Book Pack (B1) Macmillan Educational.
4. Hewings, Martin. "Cambridge Academic English (B2)". CUP, 2012. (Student Book, Teacher Resource Book, CD & DVD)

  
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### Course Objectives

- Students will be exposed to a variety of self instructional, learner friendly modes of language learning
- Students will cultivate the habit of reading passages from the computer monitor. Thus providing them with the required facility to face computer based competitive exams like gre, toefl, and gmat etc.
- Students will learn better pronunciation through stress, intonation and rhythm
- Students will be trained to use language effectively to face interviews, group discussions, public speaking
- Students will be initiated into greater use of the computer in resume preparation, report writing, format making etc

### UNIT -I

1. Phonetics for listening comprehension of various accents - 2
2. Formal Presentations using PPT slides without Graphic Elements
3. Paraphrasing

### Learning Outcomes

At the end of the module, the learners will be able to

- Understand different accents spoken by native speakers of English
- Make formal structured presentations on general topics using PPT slides without graphical elements
- Paraphrase short academic texts using suitable strategies and conventions

### UNIT -II

1. Debate – 2 (Following Argument)
2. Listening to short speeches/ short stories for note-making and summarizing
3. E-mail Writing

### Learning Outcomes

At the end of the module, the learners will be able to

- Participate in formal discussions and speak clearly on a specific topic using suitable discourse markers
- Make formal structured presentations on academic topics using ppt slides with relevant graphical elements
- Write formal emails in the standard format



### UNIT -III

1. Listening for Discussions
2. Group Discussions
3. Writing Persuasive/argumentative essays on general topics

#### Learning Outcomes

At the end of the module, the learners will be able to

- Follow a discussion to identify the salient points
- Participate in group discussions using appropriate conventions and language strategies
- Produce logically coherent persuasive/argumentative essays

### UNIT-IV

1. Reviewing film/ book
2. Group Discussions – reaching consensus in Group Work
3. Resume Writing – Cover Letter – Applying for Internship

#### Learning Outcomes

At the end of the module, the learners will be able to

- Judge a film or book
- Express thoughts and ideas with acceptable accuracy and fluency with a view to reach consensus in group discussions
- Prepare a cv and write a cover letter to seek internship/ job

### UNIT -V

1. Writing Project Reports
2. Editing Short Texts
3. Answering FAQs in Interviews

#### Learning Outcomes

At the end of the module, the learners will be able to

- Collaborate with a partner to make effective presentations
- Understand the structure and produce an effective project report.
- Edit short texts according to different needs of the work place.

#### Course Outcomes

- Remember and understand the different aspects of the English language proficiency with emphasis on LSRW skills
- Apply communication skills through various language learning activities
- Analyze the English speech sounds, stress, rhythm, intonation and syllable division for better listening and speaking comprehension.



**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**  
(Established by Govt. of A.P., ACT No.30 of 2008)  
ANANTHAPURAMU – 515 002 (A.P) INDIA

**CIVIL ENGINEERING**

Course Code	ORGANISATIONAL BEHAVIOUR (Common to All branches of Engineering)		L	T	P	C
20A52302			3	0	0	3
Pre-requisite	NIL	Semester	III			
<b>Course Objectives:</b>						
<ul style="list-style-type: none"> <li>• To enable student's comprehension of organizational behavior</li> <li>• To offer knowledge to students on self-motivation, leadership and management</li> <li>• To facilitate them to become powerful leaders</li> <li>• To Impart knowledge about group dynamics</li> <li>• To make them understand the importance of change and development</li> </ul>						
<b>Course Outcomes (CO):</b>						
<ul style="list-style-type: none"> <li>• Define the Organizational Behaviour, its nature and scope.</li> <li>• Understand the nature and concept of Organizational behaviour</li> <li>• Apply theories of motivation to analyse the performance problems</li> <li>• Analyse the different theories of leadership</li> <li>• Evaluate group dynamics</li> <li>• Develop as powerful leader</li> </ul>						
UNIT - I	<b>Introduction to Organizational Behavior</b>					
Meaning, definition, nature, scope and functions - Organizing Process – Making organizing effective -Understanding Individual Behaviour –Attitude -Perception - Learning – Personality.						
UNIT - II	<b>Motivation and Leading</b>					
Theories of Motivation- Maslow's Hierarchy of Needs - Herzberg's Two Factor Theory - Vroom's theory of expectancy – Mc Clelland's theory of needs–Mc Gregor's theory X and theory Y– Adam's equity theory – Locke's goal setting theory– Alderfer's ERG theory .						
UNIT - III	<b>Organizational Culture</b>					
Introduction – Meaning, scope, definition, Nature - Organizational Climate - Leadership - Traits Theory–Managerial Grid - Transactional Vs Transformational Leadership - Qualities of good Leader - Conflict Management -Evaluating Leader- Women and Corporate leadership.						
UNIT - IV	<b>Group Dynamics</b>					
Introduction – Meaning, scope, definition, Nature- Types of groups - Determinants of group behavior - Group process – Group Development - Group norms - Group cohesiveness - Small Groups - Group decision making - Team building - Conflict in the organization– Conflict resolution						
UNIT - V	<b>Organizational Change and Development</b>					
Introduction –Nature, Meaning, scope, definition and functions- Organizational Culture - Changing the Culture – Change Management – Work Stress Management - Organizational management – Managerial implications of organization's change and development						
<b>Textbooks:</b>						
1. Luthans, Fred, Organisational Behaviour, McGraw-Hill, 12 Th edition 2011 2. P Subba Ran, Organisational Behaviour, Himalya Publishing House 2017						
<b>Reference Books:</b>						
<ul style="list-style-type: none"> <li>▪ McShane, Organizational Behaviour, TMH 2009</li> <li>▪ Nelson, Organisational Behaviour, Thomson, 2009.</li> <li>▪ Robbins, P. Stephen, Timothy A. Judge, Organisational Behaviour, Pearson 2009.</li> <li>▪ Aswathappa, Organisational Behaviour, Himalaya, 2009</li> </ul>						
<b>Online Learning Resources:</b>						
<a href="https://www.slideshare.net/Knight1040/organizational-culture-9608857s://www.slideshare.net/AbhayRajpoot3/motivation-165556714">https://www.slideshare.net/Knight1040/organizational-culture-9608857s://www.slideshare.net/AbhayRajpoot3/motivation-165556714</a> <a href="https://www.slideshare.net/harshrastogi1/group-dynamics-159412405">https://www.slideshare.net/harshrastogi1/group-dynamics-159412405</a> <a href="https://www.slideshare.net/vanvasingla1/organizational-change-development-26565951">https://www.slideshare.net/vanvasingla1/organizational-change-development-26565951</a>						



B. Tech IV-I Sem. (ME)

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15A52601 MANAGEMENT SCIENCE

**Course Objective:** The objective of the course is to equip the student the fundamental knowledge of management science and its application for effective management of human resource, materials and operation of an organization. It also aims to expose the students about the latest and contemporary developments in the field of management.

**UNIT -I**

**Introduction to Management:** Concept-Nature and Importance of Management, Functions-Evaluation of Scientific Management, Modern management-Motivation Theories-Leadership Styles-Decision Making Process-Designing Organization Structure-Principles and Types of Organization.

**UNIT - II**

**Operations Management:** Plant location and Layout, Methods of production, Work-Study-Statistical Quality Control through Control Charts, Objectives of Inventory Management, Need for Inventory Control-EOQ&ABC Analysis(Simple Problems)**Marketing Management:** Meaning,Nature, Functions of Marketing, Marketing Mix, Channels of distribution- Advertisement and sales promotion-Marketing strategies-Product Life Cycle.

**UNIT -III**

**Human Resource Management(HRM):** Significant and Basic functions of HRM- Human Resource Planning(HRP), Job evaluation, Recruitment and Selection, Placement and Induction-Wage and Salary administration. Employee Training and development-Methods-Performance Appraisal-Employee Grievances-techniques of handling Grievances.

**UNIT -IV**

**Strategic Management:** Vision, Mission, Goals and Strategy- Corporate Planning Process-Environmental Scanning-SWOT analysis-Different Steps in Strateg Formulation, Implementation and Evaluation. **Project Management:** Network Analysis- PERT, CPM, Identifying Critical Path-Probability-Project Cost Analysis, Project Crashing (Simple Problems).

**UNIT-V**

**Contemporary Management Practices:** Basic concepts of MIS-Materials Requirement Planning(MRP),Just-In-Time(JIT)System, Total Quality Management(TQM)-Six Sigma

and Capability Maturity Models(CMM) evies, Supply Chain Management, Enterprise Resource Planning(ERP),Performance Management, Business Process Outsourcing(BPO), Business Process Re-Engineering and Bench Marking, Balance Score Card.


**Learning Outcome:** This course enables the student to know the principles and applications of management knowledge and exposure to the latest developments in the field. This helps to take effective and efficient management decisions on physical and human resources of an organization. Beside the knowledge of Management Science facilitates for his/her personal and professional development.

**TEXT BOOKS:**

1. A.R Aryasri: Management Science, TMH, 2013
2. Kumar /Rao/Challil 'Introduction to Management Science' Cengage, Delhi, 2012.

**REFERENCE BOOKS:**

1. A.K.Gupta "Engineering Management", S.CHAND, New Delhi, 2016.
2. Stoner, Freeman, Gilbert, Management, Pearson Education, New Delhi, 2012.
3. Kotler Philip & Keller Kevin Lane: Marketing Mangement , PHI, 2013.
5. Koontz & Weihrich: Essentials of Management, 6/e, TMH, 2005.
6. Kanishka Bedi, Production and Operations Management, Oxford University Press, 2004.
7. Memoria & S.V.Gauker, Personnel Management, Himalaya, 25/e, 2005
8. Parnell: Strategic Management, Biztantra, 2003.
9. L.S.Srinath: PERT/CPM, Affiliated East-West Press, 2005.

  
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(19A52604a) SOFT SKILLS  
(OPEN ELECTIVE-II)

**Course Objectives**

- To develop awareness in students of the relevance and importance of soft skills
- To provide students with interactive practice sessions to make them internalize soft skills
- To develop Time management, Positive thinking & Decision making skills
- To enable to manage stress effectively
- To enable them to develop employability skills

**SYLLABUS**

**UNIT – I**

**INTRODUCTION**

Definition – Scope – Importance- – Methods of improving soft skills – Limits- Analysis – Interpersonal and intrapersonal skills - Verbal and Non-verbal skills.

**Learning Outcomes:**

At the end of the module, the learners will be able to

- Understand the importance of soft skills
- Identify the methods of improving soft skills
- Analyze various soft skills in different situations
- Distinguish various soft skills
- Apply various soft skills in day to day life and in workplace

**UNIT – II INTRAPERSONAL SKILLS**

Knowing self/temperaments/traits - Johari windows – quotient skills(IQ, EQ, SQ), creativity, decision-making-Attitude – Confidence Building - Positive Thinking –Time Management – Goal setting.

**Learning Outcomes:**

At the end of the module, the learners will be able to

- Understand self and its temperament.
- Apply various techniques to know the self.
- Develop positive thinking
- Develop creative thinking and decision-making skills

- Apply self-knowing tools in day to day and professional life.

### UNIT – III

#### INTERPERSONAL SKILLS

Leadership Skills – Negotiation skills – Team-building – Crisis Management – Event Management – Ethics and Etiquettes.

#### Learning Outcomes:

At the end of the module, the learners will be able to

- Understand the importance of interpersonal skills
- Analyze various tactics in negotiation skills.
- Develop team building spirit.
- Develop crisis management
- Apply interpersonal skills through etiquettes.

### UNIT – IV

#### VERBAL SKILLS

Importance of verbal skills in corporate climate, Listening skills –Mother Tongue Influence (MTI) - Speaking skills – Public speaking - Oral presentations - Writing skills –E-mail etiquettes – Memos - Indianism

#### Learning Outcomes:

At the end of the module, the learners will be able to

- Understand the importance of verbal skills in corporate climate.
- Explain the need of listening skills.
- Explore MTI and suggest remedies to avoid it.
- Interpret various contexts of speaking.
- Apply verbal skills in personal and professional life.

### UNIT – V NON-VERBAL SKILLS

Importance of body language in corporate culture – body language-Facial expressions – eye contact – posture – gestures – Proxemics – Haptics – Dress Code – Paralanguage –Tone, pitch, pause& selection of words

#### Learning Outcomes:

At the end of the module, the learners will be able to

- Comprehend the importance of non-verbal communication.
- Explain the need of facial expressions, postures and gestures.



HUMANITIES ELECTIVE-I

(19A52602a)ENTREPRENEURSHIP& INCUBATION

**COURSE OBJECTIVES :**

The objective of this course is

- To make the student understand about Entrepreneurship
- To enable the student in knowing various sources of generating new ideas in setting up of New enterprise
- To facilitate the student in knowing various sources of finance in starting up of a business
- To impart knowledge about various government sources which provide financial assistance to entrepreneurs/ women entrepreneurs
- To encourage the student in creating and designing business plans

**Syllabus**

**UNIT-I**

Entrepreneurship - Concept, knowledge and skills requirement - Characteristics of successful entrepreneurs - Entrepreneurship process - Factors impacting emergence of entrepreneurship - Differences between Entrepreneur and Intrapreneur - Understanding individual entrepreneurial mindset and personality - Recent trends in Entrepreneurship.

**Learning Outcomes:**

At the end if the Unit, the learners will be able to

- Understand the concept of Entrepreneur and Entrepreneurship in India
- Know Entrepreneurship process and emergence of Entrepreneurship
- Analyze the differences between Entrepreneur and Intrapreneur
- Develop a creative mind set and personality
- Understand recent trends in Entrepreneurship across the globe

**UNIT-II**

Starting the New Venture - Generating business idea – Sources of new ideas & methods of generating ideas - Opportunity recognition - Feasibility study - Market feasibility, technical/operational feasibility - Financial feasibility - Drawing business plan - Preparing project report - Presenting business plan to investors.

### **Learning Outcomes:**

At the end of the Unit, the learners will be able to

- Know the process of starting a new venture
- Analyze the sources of new methods in generating business idea
- Evaluate market feasibility, financial feasibility and technical feasibility
- Design and draw business plans in project preparation and prepare project reports

### **UNIT-III**

Sources of finance - Various sources of Finance available - Long term sources - Short term sources - Institutional Finance – Commercial Banks, SFC's in India - NBFC's in India - their way of financing in India for small and medium business - Entrepreneurship development programs in India - The entrepreneurial journey- Institutions in aid of entrepreneurship development

### **Learning Outcomes:**

At the end of the Unit, the learners will be able to

- Know the various sources of finance to start a new venture
- Contrast & compare between Long term & Short term finance sources
- Analyze the role of banks and other financial institutions in promoting entrepreneurship in India
- Evaluate the need and importance of MSMEs in the growth of country

### **UNIT-IV**

Women Entrepreneurship - Entrepreneurship Development and Government - Role of Central Government and State Government in promoting women Entrepreneurship - Introduction to various incentives, subsidies and grants – Export-oriented Units - Fiscal and Tax concessions available - Women entrepreneurship - Role and importance - Growth of women entrepreneurship in India - Issues & Challenges - Entrepreneurial motivations.

### **Learning Outcomes:**

At the end of the Unit, the learners will be able to

- Understand the role of government in promoting women entrepreneurship
- Know various incentives, subsidies and grants available to women entrepreneurs
- Analyze the role of export-oriented units
- Know about the tax concessions available for Women entrepreneurs
- Prepare to face the issues and challenges.

### **UNIT-V**



### COURSE OBJECTIVES :

The objective of this course is

- To understand the basic concepts of research and research problem
- To make the students learn about various types of data collection and sampling design
- To enable them to know the method of statistical evaluation
- To make the students understand various testing tools in research
- To make the student learn how to write a research report
- To create awareness on ethical issues in research

### Syllabus

#### UNIT- I

Meaning of Research – Objectives of Research – Types of Research – Research Approaches – Guidelines for Selecting and Defining a Research Problem – Research Design – Concepts related to Research Design – Basic Principles of Experimental Design.

#### Learning Outcomes:-

After completion of this unit student will

- Understand the concept of research and its process
- Explain various types of research
- Know the steps involved in research design
- Understand the different research approaches

#### UNIT -II

Sampling Design – steps in Sampling Design – Characteristics of a Good Sample Design – Random Sampling Design. Measurement and Scaling Techniques-Errors in Measurement – Tests of Sound Measurement – Scaling and Scale Construction Techniques – Time Series Analysis – Interpolation and Extrapolation. Data Collection Methods – Primary Data – Secondary data – Questionnaire Survey and Interviews.

#### Learning Outcomes:-

After completion of this unit student will

- Understand the concept of sampling and sampling design

- Explain various techniques in measurement and scaling
- Learn various methods of data collection
- Design survey questionnaires for different kinds of research
- Analyze the questionnaires

### UNIT- III

Correlation and Regression Analysis – Method of Least Squares – Regression vs Correlation – Correlation vs Determination – Types of Correlations and Their Applications

#### Learning Outcomes:-

After completion of this unit student will

- Know the association of two variables
- Understand the importance of correlation and regression
- Compare and contrast correlation and regression
- Learn various types of correlation
- Apply the knowledge of C&R Analysis to get the results

### UNIT -IV

Statistical Inference: Tests of Hypothesis – Parametric vs Non-parametric Tests – Hypothesis Testing Procedure – Sampling Theory – Sampling Distribution – Chi-square Test – Analysis of variance and Co-variance – Multivariate Analysis

#### Learning Outcomes:-

After completion of this unit student will

- Know the statistical inference
- Understand the hypothesis testing procedure
- Compare and contrast Parametric and Non-parametric Tests
- Understand the use of chi-square test in investigating the distribution of categorical variables
- Analyze the significance of variance and covariance

### UNIT -V

Report Writing and Professional Ethics: Interpretation of Data – Report Writing – Layout of a Research Paper – Techniques of Interpretation- Making Scientific Presentations in Conferences and Seminars – Professional Ethics in Research.

#### Learning Outcomes:-

After completion of this unit student will

- Learn about report writing
- Understand how to write research paper
- Explain various techniques of interpretation
- Understand the importance of professional ethics in research





**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**  
(Established by Govt. of A.P., ACT No.30 of 2008)  
ANANTHAPURAMU – 515 002 (A.P) INDIA

**M.TECH. IN EMBEDDED SYSTEMS**

**COURSE STRUCTURE & SYLLABI**

Course Code	ENGLISH FOR RESEARCH PAPER WRITING	L	T	P	C
21DAC101a		2	0	0	0
<b>Semester</b>		<b>I</b>			
<b>Course Objectives:</b> This course will enable students:					
<ul style="list-style-type: none"> <li>• Understand the essentials of writing skills and their level of readability</li> <li>• Learn about what to write in each section</li> <li>• Ensure qualitative presentation with linguistic accuracy</li> </ul>					
<b>Course Outcomes (CO):</b> Student will be able to					
<ul style="list-style-type: none"> <li>• Understand the significance of writing skills and the level of readability</li> <li>• Analyze and write title, abstract, different sections in research paper</li> <li>• Develop the skills needed while writing a research paper</li> </ul>					
<b>UNIT - I</b>		Lecture Hrs:10			
IOverview of a Research Paper- Planning and Preparation- Word Order- Useful Phrases - Breaking up Long Sentences-Structuring Paragraphs and Sentences-Being Concise and Removing Redundancy -Avoiding Ambiguity					
<b>UNIT - II</b>		Lecture Hrs:10			
Essential Components of a Research Paper- Abstracts- Building Hypothesis-Research Problem - Highlight Findings- Hedging and Criticizing, Paraphrasing and Plagiarism, Cauterization					
<b>UNIT - III</b>		Lecture Hrs:10			
Introducing Review of the Literature – Methodology - Analysis of the Data-Findings - Discussion- Conclusions-Recommendations.					
<b>UNIT - IV</b>		Lecture Hrs:9			
Key skills needed for writing a Title, Abstract, and Introduction					
<b>UNIT - V</b>		Lecture Hrs:9			
Appropriate language to formulate Methodology, incorporate Results, put forth Arguments and draw Conclusions					
<b>Suggested Reading</b>					
<ol style="list-style-type: none"> <li>1. Goldbort R (2006) Writing for Science, Yale University Press (available on Google Books) Model Curriculum of Engineering &amp; Technology PG Courses [Volume-I]</li> <li>2. Day R (2006) How to Write and Publish a Scientific Paper, Cambridge University Press</li> <li>3. Highman N (1998), Handbook of Writing for the Mathematical Sciences, SIAM. Highman'sbook</li> <li>4. Adrian Wallwork , English for Writing Research Papers, Springer New York Dordrecht Heidelberg London, 2011</li> </ol>					


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ANANTHAPURAMU – 515 002 (A.P) INDIA

**M.TECH. IN STRUCTURAL ENGINEERING  
COURSE STRUCTURE & SYLLABI**

Course Code	RESEARCH METHODOLOGY AND IPR	L	T	P	C
21DRM101		2	0	0	2
<b>Semester</b>		<b>I</b>			
<b>Course Objectives:</b>					
<ul style="list-style-type: none"> <li>Identify an appropriate research problem in their interesting domain.</li> <li>Understand ethical issues understand the Preparation of a research project thesis report.</li> <li>Understand the Preparation of a research project thesis report</li> <li>Understand the law of patent and copyrights.</li> <li>Understand the Adequate knowledge on IPR</li> </ul>					
<b>Course Outcomes (CO):</b> Student will be able to					
<ul style="list-style-type: none"> <li>Analyze research related information</li> <li>Follow research ethics</li> <li>Understand that today's world is controlled by Computer, Information Technology, but tomorrow world will be ruled by ideas, concept, and creativity.</li> <li>Understanding that when IPR would take such important place in growth of individuals &amp; nation, it is needless to emphasis the need of information about Intellectual Property Right to be promoted among students in general &amp; engineering in particular.</li> <li>Understand that IPR protection provides an incentive to inventors for further research work and investment in R &amp; D, which leads to creation of new and better products, and in turn brings about, economic growth and social benefits.</li> </ul>					
<b>UNIT - I</b>		<b>Lecture Hrs:</b>			
Meaning of research problem, Sources of research problem, Criteria Characteristics of a good research problem, Errors in selecting a research problem, scope, and objectives of research problem. Approaches of investigation of solutions for research problem, data collection, analysis, interpretation, Necessary instrumentations					
<b>UNIT - II</b>		<b>Lecture Hrs:</b>			
Effective literature studies approaches, analysis Plagiarism, Research ethics, Effective technical writing, how to write report, Paper Developing a Research Proposal, Format of research proposal, a presentation and assessment by a review committee.					
<b>UNIT - III</b>		<b>Lecture Hrs:</b>			
Nature of Intellectual Property: Patents, Designs, Trade and Copyright. Process of Patenting and Development: technological research, innovation, patenting, development. International Scenario: International cooperation on Intellectual Property. Procedure for grants of patents, Patenting under PCT.					
<b>UNIT - IV</b>		<b>Lecture Hrs:</b>			
Patent Rights: Scope of Patent Rights. Licensing and transfer of technology. Patent information and databases. Geographical Indications.					
<b>UNIT - V</b>		<b>Lecture Hrs:</b>			
New Developments in IPR: Administration of Patent System. New developments in IPR; IPR of Biological Systems, Computer Software etc. Traditional knowledge Case Studies, IPR and IITs.					
<b>Textbooks:</b>					
1. Stuart Melville and Wayne Goddard, "Research methodology: an introduction for science & engineering students" 2. Wayne Goddard and Stuart Melville, "Research Methodology: An Introduction"					
<b>Reference Books:</b>					
1. Ranjit Kumar, 2nd Edition, "Research Methodology: A Step by Step Guide for beginners" 2. Halbert, "Resisting Intellectual Property", Taylor & Francis Ltd ,2007. 3. Mayall, "Industrial Design", McGraw Hill, 1992. 4. Niebel, "Product Design", McGraw Hill, 1974. 5. Asimov, "Introduction to Design", Prentice Hall, 1962. 6. Robert P. Merges, Peter S. Menell, Mark A. Lemley, " Intellectual Property in New Technological Age", 2016.					



(20A99201) ENVIRONMENTAL SCIENCE

(Common to All Branches of Engineering)

**Course Objectives:**

- 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.

**UNIT – I**

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

**Natural Resources :** Renewable and non-renewable resources – Natural resources and associated problems – Forest resources – Use and over – exploitation, deforestation, case studies – Timber extraction – Mining, dams and other effects on forest and tribal people – Water resources – Use and over utilization of surface and ground water – Floods, drought, conflicts over water, dams – benefits and problems – Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies – 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:

**Learning outcomes:**

At the end of this unit, the students will be able to

- To know the importance of public awareness
- To know about the various resources

**UNIT – II**

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

- a. Forest ecosystem.
- b. Grassland ecosystem
- c. Desert ecosystem
- d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

**Biodiversity And Its Conservation :** Introduction 0 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, National and local levels – India as a mega-diversity nation – Hot-spots of biodiversity – Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts – Endangered and endemic species of India – Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

**Learning outcomes:**

At the end of this unit, the students will be able to

- To know about various eco systems and their characteristics
- To know about the biodiversity and its conservation

**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:**

At the end of this unit, the students will be able to

- To know about the various sources of pollution.
- To know about the various sources of solid waste and preventive measures.
- To know about 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, watershed management – Resettlement and rehabilitation of people; its problems and concerns. Case studies – Environmental ethics: Issues and possible solutions – Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies – Wasteland reclamation. – Consumerism and waste products. – Environment Protection Act. – Air (Prevention and Control of Pollution) Act. – Water (Prevention and control of Pollution) Act – Wildlife Protection Act – Forest Conservation Act – Issues involved in enforcement of environmental legislation – Public awareness.

**Learning outcomes:**

At the end of this unit, the students will be able to

- To know about the social issues related to environment and their protection acts.
- To know about the various sources of conservation of natural resources.
- To know about the wild life protection and forest conservation acts.



Fundamentals of Business Incubation - Principles and good practices of business incubation- Process of business incubation and the business incubator and how they operate and influence the Type/benefits of incubators - Corporate/educational / institutional incubators - Broader business incubation environment - Pre-Incubation and Post - Incubation process - Idea lab, Business plan structure - Value proposition

### **Learning Outcomes:**

At the end of the Unit, the learners will be able to:

- Understand the importance of business incubation
- Apply brilliant ideas in the process of business incubation
- Analyze the process of business incubation/incubators.
- Contrast & Compare between business incubation and business incubators.
- Design their own business incubation/incubators as viable-business unit.

### **Course Outcomes:**

At the end of the course, students will be able to

- Understand the concept of Entrepreneurship and challenges in the world of competition.
- Apply the Knowledge in generating ideas for New Ventures.
- Analyze various sources of finance and subsidies to entrepreneur/women Entrepreneurs.
- Evaluate the role of central government and state government in promoting Entrepreneurship.
- Create and design business plan structure through incubations.

### **TEXT BOOKS**

1. D F Kuratko and T V Rao, "Entrepreneurship" - A South-Asian Perspective – Cengage Learning, 2012. (For PPT, Case Solutions Faculty may visit : [login.cengage.com](http://login.cengage.com))
2. Nandan H, " Fundamentals of Entrepreneurship", PHI, 2013

### **REFERENCES**

1. Vasant Desai, "Small Scale Industries and Entrepreneurship", Himalaya Publishing 2012.
2. Rajeev Roy "Entrepreneurship", 2<sup>nd</sup> Edition, Oxford, 2012.
3. B.Janakiramand M.Rizwanal "Entrepreneurship Development: Text & Cases", Excel Books, 2011.
4. Stuart Read, Effectual "Entrepreneurship", Routledge, 2013.

### **E-RESOURCES**

1. Entrepreneurship-Through-the-Lens-of-enture Capital
2. <http://www.onlinevideolecture.com/?course=mba-programs&subject=entrepreneurship>
3. [http://nptel.ac.in/courses/122106032/Pdf/7\\_4.pdf](http://nptel.ac.in/courses/122106032/Pdf/7_4.pdf)
4. <http://freevideolectures.com/Course/3514/Economics-/-Management-/-Entrepreneurhip/50>

  
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Tirupati Dist. (A.P.)



(19A01505c) ENVIRONMENTAL POLLUTION AND CONTROL  
PROFESSIONAL ELECTIVE-I

**Course Objectives:**

- Impart knowledge on aspects of air pollution & control and noise pollution
- Impart concepts of treatment of waste water from industrial source.
- Differentiate the solid and hazardous waste based on characterization
- Introduce sanitation methods essential for protection of community health.
- Provide basic knowledge on sustainable development.

**UNIT – I:**

**Air Pollution:**

Air pollution Control Methods-Particulate control devices – Methods of Controlling Gaseous Emissions – Air quality standards. Noise Pollution: Noise standards, Measurement and control methods – Reducing residential and industrial noise – ISO:14000.

**Learning Outcomes:**

At the end of this unit, the student will be able to

- Understand control mechanism of air pollutants
- Design noise reduction techniques.

**UNIT –II:**

**Industrial waste water Management:**

Strategies for pollution control – Volume and Strength reduction – Neutralization – Equalization – Proportioning – Common Effluent Treatment Plants – Recirculation of industrial wastes – Effluent standards.

**Learning Outcomes:**

At the end of this unit, the student will be able to

- Understand the importance of treatment process of industrial effluents.
- Design treatment plants

**UNIT – III:**

**Solid Waste Management:** solid waste characteristics – basics of on-site handling and collection – separation and processing – Incineration- Composting-Solid waste disposal methods – fundamentals of Land filling. **Hazardous Waste:** Characterization – Nuclear waste – Biomedical wastes – Electronic wastes – Chemical wastes – Treatment and management of hazardous waste-Disposal and Control methods.

**Learning Outcomes:**

At the end of this unit, the student will be able to

- Classification of solid waste and separation and procession solid waste
- Identification of Hazardous wastes
- Plan and execute solid waste and hazardous waste management.

**UNIT – IV:**

**Environmental Sanitation:** Environmental Sanitation Methods for Hostels and Hotels, Hospitals, Swimming pools and public bathing places, social gatherings (melas and fares), Schools and Institutions, Rural Sanitation-low cost waste disposal methods.

**Learning Outcomes:**

At the end of this unit, the student will be able to

- Understand importance of hygienic environment
- Suggest appropriate rural sanitation methods to keep surrounding clean.

**UNIT – V:**

**Sustainable Development:** Definition- elements of sustainable developments-Indicators of sustainable development- Sustainability Strategies- Barriers to Sustainability-Industrialization and sustainable development – Cleaner production in achieving sustainability- sustainable development.

**Learning Outcomes:**

At the end of this unit, the student will be able to

- Execute sustainable development strategies.

**Course Outcomes:**

At the end of the course, the students will be able to:

- Understand the fundamentals of solid waste management, practices adopted in his town/village and its importance in keeping the health of the city.
- Identify the air pollutant control devices and have knowledge on the NAAQ standards and air emission standards.
- Differentiate the treatment techniques used for sewage and industrial wastewater treatment.
- Inventing the methods of environmental sanitation and the management of community facilities without spread of epidemics.
- Appreciate the importance of sustainable development while planning a project or executing an activity.

  
**TEXT BOOKS**

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## 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 – Case studies.

**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:

At the end of this unit, the students will be able to

- To know about the population explosion and family welfare programmes.
- To identify the natural assets and related case studies.

### TEXT BOOKS:

1. Text book of Environmental Studies for Undergraduate Courses Erach Bharucha for University Grants Commission, Universities Press.
2. Palaniswamy, "Environmental Studies", Pearson education
3. S.Azeem Unnisa, "Environmental Studies" Academic Publishing Company
4. K.Raghavan Nambiar, "Text book of Environmental Studies for Undergraduate Courses as per UGC model syllabus", Scitech Publications (India), Pvt. Ltd.

### REFERENCES:

1. Deeksha Dave and E.Sai Baba Reddy, "Textbook of Environmental Science", Cengage Publications.
2. M.Anji Reddy, "Text book of Environmental Sciences and Technology", BS Publication.
3. J.P.Sharma, Comprehensive Environmental studies, Laxmi publications.
4. J. Glynn Henry and Gary W. Heinke, "Environmental Sciences and Engineering", Prentice hall of India Private limited
5. G.R.Chatwal, "A Text Book of Environmental Studies" Himalaya Publishing House
6. Gilbert M. Masters and Wendell P. Ela, "Introduction to Environmental Engineering and Science, Prentice hall of India Private limited.

### Course Outcomes:

At the end of the course, the student will be able to

- Grasp multidisciplinary nature of environmental studies and various renewable and nonrenewable resources.
- Understand flow and bio-geo- chemical cycles and ecological pyramids.
- Understand various causes of pollution and solid waste management and related preventive measures.
- About the rainwater harvesting, watershed management, ozone layer depletion and waste land reclamation.
- Casus of population explosion, value education and welfare programmes.

  
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**OBJECTIVE:** The object of the course is to enable the students to identify the characteristics of water sample.

#### LABORATORY EXPERIMENTS

- 1.Determination of pH and Electrical Conductivity (Salinity) of Water and Soil.
- 2.Determination and estimation of Total Hardness–Calcium & Magnesium.
- 3.Determination of Alkalinity/Acidity
- 4.Determination of Chlorides in water and soil
- 5.Determination and Estimation of total solids, organic solids and inorganic solids and settleable solids by Imhoff Cone.
- 6.Determination of Iron.
- 7.Determination of Dissolved Oxygen with D.O. Meter & Wrinklers Method and B.O.D.
- 8.Determination of N, P, K values in solid waste
- 9.Physical parameters – Temperature, Colour, Odour, Turbidity, Taste.
- 10.Determination of C.O.D.
- 11.Determination of Optimum coagulant dose.
- 12.Determination of Chlorine demand.
- 13.Presumptive Coliform test.

#### Course Outcomes:

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

- Understand about quality of water and purification process
- Select appropriate technique for treatment of waste water.
- Assess the impact of air pollution
- Understand consequences of solid waste and its management.
- Design domestic plumbing systems.

#### TEXT BOOKS:

- 1.G. S. Birdi “Water supply and sanitary Engineering”, Dhanpat Rai & Sons Publishers.
- 2.Peavy, H.S, Rowe, D. R. Tchobanoglous, “Environmental Engineering”, Mc-Graw –Hill International Editions, New York 1985.

#### REFERENCES:



(19A01502) WATER RESOURCE ENGINEERING

**Course Objectives:**

- To illustrate hydrologic cycle and its relevance to Civil engineering
- To teach students understand physical processes in hydrology & components of the hydrologic cycle
- To demonstrate concepts and theory of physical processes and interactions
- To impart on measurement and estimation of the components hydrologic cycle.
- To provide an overview and understanding of Unit Hydrograph theory, flood frequency and its analysis

**UNIT -I:**

**Introduction:**

Engineering hydrology and its applications, Hydrologic cycle, hydrological data-sources of data. **Precipitation:** Types and forms, measurement, rain gauge network, presentation of rainfall data, average rainfall, continuity and consistency of rainfall data, frequency of rainfall, Intensity-Duration-Frequency (IDF) curves, Depth-Area-Duration (DAD) curves, Probable Maximum Precipitation (PMP), design storm

**Learning Outcomes:**

At the end of this unit, the student will be able to

- Understand basics of engineering hydrology and its applications.
- Demonstrate measurement techniques of precipitation.
- Learn curves related to frequency of rainfall..

**UNIT-II:**

**Abstractions from Precipitation:**

Initial abstractions. Evaporation: factors affecting, measurement, reduction Evapo-transpiration: factors affecting, measurement, control - Infiltration: factors affecting, Infiltration capacity curve, measurement, infiltration indices.

**Learning Outcomes:**

At the end of this unit, the student will be able to

- Attain knowledge on factors influencing evaporation.
- Analyze factors influencing infiltration.

**UNIT-III:**

**Runoff and Hydrograph analysis:**

Catchment characteristics, Factors affecting runoff, components, computation- empirical formulae, tables and curves, stream gauging, rating curve, flow mass curve and flow duration curve. Components of hydrograph, separation of base flow, effective rainfall hyetograph and direct runoff hydrograph, unit hydrograph, assumptions, derivation of unit hydrograph, unit

hydrographs of different durations, principle of superposition and S-hydrograph methods, limitations and applications of unit hydrograph, synthetic unit hydrograph – Floods: Causes and effects .

#### **Learning Outcomes:**

At the end of this unit, the student will be able to

- Determine runoff characteristics and factors influencing runoff.
- Examine components of hydro graph.
- Develop knowledge on floods and its effects.

#### **UNIT-IV:**

**Groundwater:** Occurrence, types of aquifers, aquifer parameters, porosity, specific yield, permeability, transmissivity and storage coefficient, types of wells, Darcy's law, Dupuit's equation- steady radial flow to wells in confined and unconfined aquifers, yield of a open well-recuperation test.

#### **Learning Outcomes:**

At the end of this unit, the student will be able to

- Understand basics about ground water.
- Learn and implement Darcy's law and Dupuit's equation.

#### **UNIT-V:**

##### **IRRIGATION:**

Introduction-necessity and impotence of irrigation-advantages and ill-effects of irrigation; types of irrigation; methods of application of water; quality for irrigation water; duty and delta; duty at various places; relation between duty and delta; factors affecting duty; methods of improving duty; soil-water-plant relationship; limiting soil moisture conditions, depth and frequency of irrigation.

#### **LIST OF DRAWINGS:**

**Draw the following irrigation structures.**

1. Sloping glacis weir
2. Surplus weir.
3. Tank sluice with tower head
4. Type III Syphon aqueduct.
5. Canal regulator.

#### **Course Outcomes**

At the end of the course the students are able to

- Understand of the theories and principles governing the hydrologic processes.
- Identify major hydrologic components and apply key concepts to several practical areas of engineering hydrology and related design aspects.
- Develop Intensity-Duration-Frequency and Depth-Area Duration curves to design



**R15**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**

**B. Tech IV-I Sem. (C.E)**

L	T	P	C
3	1	0	3

**15A01703 ENVIRONMENTAL ENGINEERING**

**Course Objective:** This subject provides the knowledge of water sources, water treatment, design of distribution system, waste water treatment, and safe disposal methods. The topics of characteristics of waste water, sludge digestion are also included.

**UNIT - I**

**INTRODUCTION:** Importance and Necessity of Protected Water Supply systems, Objectives of Protected water supply system, Flow chart of public water supply system, Role of Environmental Engineer.

**WATER DEMAND AND QUANTITY STUDIES :** Estimation of water demand for a town or city, Types of water demands, Per capita Demand, Factors affecting the Per Capita Demand, Variations in the Demand, Design Period, Factors affecting the Design period, Population Studies, Population Forecasting Studies.

**QUALITY AND ANALYSIS OF WATER:** Characteristics of water – Physical, Chemical and Biological. Analysis of Water – Physical, Chemical and Biological. Impurities in water, Water borne diseases. Drinking water quality standards.

**UNIT - II**

**WATER TREATMENT:** Layout and general outline of water treatment units – sedimentation – principles – design factors – coagulation-flocculation clarifier design – coagulants – feeding arrangements. Filtration and Chlorination: Filtration – theory – working of slow and rapid gravity filters – multimedia filters – design of filters – troubles in operation comparison of filters – disinfection – theory of chlorination, chlorine demand, other disinfection practices- Miscellaneous treatment methods

**WATER DISTRIBUTION :** Distribution systems – Requirements, Layout of Water distribution systems - Design procedures- Hardy Cross and equivalent pipe methods service reservoirs – joints, valves such as sluice valves, air valves, scour valves and check valves water meters – laying and testing of pipe lines – pump house, waste detection and prevention.

**UNIT - III**

**INTRODUCTION TO SANITATION :** systems of sanitation – relative merits & demerits – collection and conveyance of waste water – sewerage – classification of sewerage

**R15**

systems- Estimation of sewage flow and storm water drainage – fluctuations – types of sewers – Hydraulics of sewers and storm drains– design of sewers – materials for sewers- appurtenances in sewerage – cleaning and ventilation of sewers .

**WASTE WATER COLLECTION AND CHARACTERISTICS :** Conservancy and water carriage systems – sewage and storm water estimation – time of concentration – storm water overflows combined flow – characteristics of sewage – cycles of decay – decomposition of sewage, examination of sewage – B.O.D. – C.O.D. equations.

**UNIT IV**

**WASTE WATER TREATMENT:** Layout and general out line of various units in a waste water treatment plant – primary treatment: design of screens – grit chambers – skimming tanks – sedimentation tanks – principles of design – biological treatment – trickling filters – standard and high rate – Construction and design of Oxidation ponds.

**SLUDGE TREATMENT:** Sludge digestion – factors effecting – design of Digestion tank – Sludge disposal by drying – septic tanks and Imhoff Tanks, working principles and design – soak pits.

**UNIT – V**

**SOLID WASTE MANAGEMENT:** Characteristics, generation, collection and transportation of solid wastes, engineered systems for solid waste management (reuse/ recycle, energy recovery, treatment and disposal).

**AIR POLLUTION:** Types of pollutants, their sources and impacts, air pollution meteorology, air pollution control, air quality standards and limits.

**NOISE POLLUTION:** Impacts of noise, permissible limits of noise pollution, measurement of noise and control of noise pollution.

**TEXT BOOKS:**

1. Water Supply And Sanitary Engineering By G.S. Birdi, Dhanpat Rai & Sons Publishers.
2. Water Supply Engineering, Vol. 1, Waste Water Engineering, Vol. II, B.C.Punmia, Ashok Jain & Arun Jain, Laxmi Publications Pvt.Ltd, New Delhi
3. Environmental Engineering By Peavy, TMH Publishers.



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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**

**B. Tech IV-I Sem. (C.E)**

L	T	P	C
0	0	4	2

**15A01712 ENVIRONMENTAL ENGINEERING LABORATORY**

**Course Objective:**

*The laboratory provides knowledge of estimating various parameters like PH, Chlorides, Sulphates, Nitrates in water. For effective water treatment, the determination of optimum dosage of coagulant and chloride demand are also included. The estimation status of Industrial effluents will also be taught in the laboratory by estimating BOD and COD of effluent.*

**LIST OF EXPERIMENTS**

1. Determination of pH and Turbidity
2. Determination of Conductivity and Total dissolved solids.
3. Determination of Alkalinity/Acidity.
4. Determination of Chlorides.
5. Determination and Estimation of total solids, organic solids and inorganic solids.
6. Determination of iron.
7. Determination of Dissolved Oxygen.
8. Determination of Nitrogen.
9. Determination of total Phosphorous.
10. Determination of B.O.D
11. Determination of C.O.D
12. Determination of Optimum coagulant dose.
13. Determination of Chlorine demand.
14. Presumptive coliform test.

**NOTE:** At least 8 of the above experiments are to be conducted.

  
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**B. Tech IV-I Sem. (C.E)**

L	T	P	C
3	1	0	3

**15A01704 WATER RESOURCES ENGINEERING-II**

**Course Objective:** This subject aims to impart the knowledge of various head works, canal structures and their design principles to the students. The subject also covers the river structures, their classifications, designs, etc.

**UNIT – 1**

**CANAL REGULATION WORKS:** Canal falls: Necessity and location of falls; Types of falls; classification of falls; cistern design; roughening devices; design of sarda type fall. Canal regulators: off-take alignment; head regulators and cross-regulators; design of cross-regulator and distributary head regulator.

**CROSS DRAINAGE WORKS:** Introduction; types of cross drainage works; selection of suitable type of cross drainage work; classification of aqueducts and siphon aqueducts.

**UNIT-II**

**STREAM GAUGING:** Necessity; Selection of gauging sites; methods of Discharge Measurement; Area-Velocity method; Slope-Area method; Tracer method, Electromagnetic induction method; Ultrasonic method; Measurement of depth – Sounding rod, Echo-sounder; Measurement of velocity: Floats – Surface floats, Sub-surface float or Double float, Velocity rod; Pitot tube; Current meter- rating of current meter, measurement of velocity; chemical method; Measurement of stage-Staff gauge, wire gauge, water stage recorder, bubble gauge recorder; stage-discharge curve.

**RIVER ENGINEERING:** Classification of rivers; Meandering; Causes of meandering; Basic factors controlling process of meandering; Aggrading type of river; Degrading type of River; River training: objectives, Classification of river training works; Types of River training works : Guide banks, Marginal embankments ,Groynes or spur, levees, bank protection, pitched islands.

**UNIT-III**

**RESERVOIR PLANNING:** Introduction; Investigations for reservoir planning; Selection of site for a reservoir; Zones of storage in a reservoir; Storage capacity and yield; Mass inflow curve and demand curve; Calculation of reservoir capacity for a specified yield from the mass inflow curve; Determination of safe yield from a reservoir of a given capacity; Sediment flow in streams: Reservoir sedimentation; Life of reservoir; Reservoir sediment control; Flood routing; Methods of flood routing-Graphical Method (Inflow – storage discharge curves method).



**DAMS :GENERAL:** Introduction; Classification according to use; classification according to material- Gravity dams, Arch dams, Buttress dams, Steel dams, Timber dams, Earth dams and rock fill dams-advantages and disadvantages; Physical factors governing selection of type of dam ; selection of site for a dam.

#### **UNIT-IV**

**GRAVITY DAMS:** Introduction; Forces acting on a gravity dam; Combination of loading for design; Modes of failure: stability requirements; principal and shear stresses; Stability analysis; Elementary profile of a gravity dam; Practical profile of a gravity dam; Limiting height of a gravity dam- High and low gravity dams; Design of gravity dams–single step method; Galleries; Stability analysis of non–overflow section of Gravity dam.

**EARTH DAMS:** Introduction; Types of earth dams; Causes of failure of earth dams; Criteria for safe design of earth dams; Section of an earth dam; Design to suit available materials; Seepage control measures; Slope protection. Seepage through earth dam – graphical method

#### **UNIT-V**

**SPILLWAYS:** Introduction; Types of spillways; Profile of ogee spillway; Energy dissipation below spillways for relative positions of jump height curve and tail water curve; Stilling basins; Indian standards on criteria for design of hydraulic jump type stilling basins with horizontal aprons; Spillway crest gates-Types and description only.

**WATER POWER ENGINEERING:** Development of hydro power in India; Classification of hydel plants: runoff river plants, storage plants and pumped storage plants; low, medium and high head schemes ; Investigation and planning; components of hydel schemes – fore bay, intake structure, surge tanks, penstocks ,power house, turbines-selection of suitable type of turbine, Scroll casing ,draft tube and tail race; assessment of available power; definition of gross head,operating head ,effective head; Flow duration curve; Power duration curve; Load duration curve; Load curve ; primary power and secondary power; installed capacity, dependable capacity; firm power, secondary power; power factor ;load factor, capacity factor ,utilization factor and Diversity factor.

#### **TEXT BOOKS:**

1. Irrigation and Water Power Engineering by Dr. B.C.Punmia & Dr. Pande B.B. Lal; Laxmi Publications pvt. Ltd., New Delhi.
2. Irrigation Engineering and Hydraulic Structure by S. K. Garg; Khanna Publishers, Delhi.

(20A99201) ENVIRONMENTAL SCIENCE  
(Common to All Branches of Engineering)

**Course Objectives:**

- 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.

**UNIT – I**

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

**Natural Resources :** Renewable and non-renewable resources – Natural resources and associated problems – Forest resources – Use and over – exploitation, deforestation, case studies – Timber extraction – Mining, dams and other effects on forest and tribal people – Water resources – Use and over utilization of surface and ground water – Floods, drought, conflicts over water, dams – benefits and problems – Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies – 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:

**Learning outcomes:**

At the end of this unit, the students will be able to

- To know the importance of public awareness
- To know about the various resources

**UNIT – II**

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

- a. Forest ecosystem.
- b. Grassland ecosystem
- c. Desert ecosystem
- d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

**Biodiversity And Its Conservation :** Introduction 0 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, National and local levels – India as a mega-diversity nation – Hot-spots of biodiversity – Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts – Endangered and endemic species of India – Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.



**Learning outcomes:**

At the end of this unit, the students will be able to

- To know about various eco systems and their characteristics
- To know about the biodiversity and its conservation

**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:**

At the end of this unit, the students will be able to

- To know about the various sources of pollution.
- To know about the various sources of solid waste and preventive measures.
- To know about 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, watershed management – Resettlement and rehabilitation of people; its problems and concerns. Case studies – Environmental ethics: Issues and possible solutions – Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies – Wasteland reclamation. – Consumerism and waste products. – Environment Protection Act. – Air (Prevention and Control of Pollution) Act. – Water (Prevention and control of Pollution) Act – Wildlife Protection Act – Forest Conservation Act – Issues involved in enforcement of environmental legislation – Public awareness.

**Learning outcomes:**

At the end of this unit, the students will be able to

- To know about the social issues related to environment and their protection acts.
- To know about the various sources of conservation of natural resources.
- To know about the wild life protection and forest conservation acts.

## 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 – Case studies.

**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:

At the end of this unit, the students will be able to

- To know about the population explosion and family welfare programmes.
- To identify the natural assets and related case studies.

### TEXT BOOKS:

1. Text book of Environmental Studies for Undergraduate Courses Erach Bharucha for University Grants Commission, Universities Press.
2. Palaniswamy, "Environmental Studies", Pearson education
3. S.Azeem Unnisa, "Environmental Studies" Academic Publishing Company
4. K.Raghavan Nambiar, "Text book of Environmental Studies for Undergraduate Courses as per UGC model syllabus", Scitech Publications (India), Pvt. Ltd.

### REFERENCES:

1. Deeksha Dave and E.Sai Baba Reddy, "Textbook of Environmental Science", Cengage Publications.
2. M.Anji Reddy, "Text book of Environmental Sciences and Technology", BS Publication.
3. J.P.Sharma, Comprehensive Environmental studies, Laxmi publications.
4. J. Glynn Henry and Gary W. Heinke, "Environmental Sciences and Engineering", Prentice hall of India Private limited
5. G.R.Chatwal, "A Text Book of Environmental Studies" Himalaya Publishing House
6. Gilbert M. Masters and Wendell P. Ela, "Introduction to Environmental Engineering and Science, Prentice hall of India Private limited.

### Course Outcomes:

At the end of the course, the student will be able to

- Grasp multidisciplinary nature of environmental studies and various renewable and nonrenewable resources.
- Understand flow and bio-geo- chemical cycles and ecological pyramids.
- Understand various causes of pollution and solid waste management and related preventive measures.
- About the rainwater harvesting, watershed management, ozone layer depletion and waste land reclamation.
- Casus of population explosion, value education and welfare programmes.

  
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**CIVIL ENGINEERING**

Course Code	Environmental Engineering - I		L	T	P	C
20A01404T			3	0	0	3
Pre-requisite	NIL	Semester	IV			
<b>Course Objectives:</b>						
<ul style="list-style-type: none"> <li>• To teach requirements of water and its treatment.</li> <li>• To impart knowledge on sewage treatment methodologies.</li> <li>• To provide facts on Air pollution and control.</li> <li>• To enable with design concepts of wastewater treatment UNITs</li> <li>• To throw light on importance of plumbing.</li> </ul>						
<b>Course Outcomes (CO):</b>						
At the end of the course, the student will be able to:						
<ul style="list-style-type: none"> <li>• Understand about quality of water and purification process</li> <li>• Select appropriate technique for treatment of wastewater.</li> <li>• Assess the impact of air pollution</li> <li>• Understand consequences of solid waste and its management</li> <li>• Design domestic plumbing systems</li> </ul>						
UNIT - I	Water quality and treatment:					
Water quality: Sources of Water and quality issues, water quality requirement for different beneficial uses, Water quality standards, water quality indices, water safety plans, Water Supply systems, Need for planned water supply schemes, Water demand industrial and agricultural water requirements, Components of water supply system; Transmission of water, Distribution system, Various valves used in W/S systems, service reservoirs and design. Water Treatment: aeration, sedimentation, coagulation flocculation, filtration, disinfection, advanced treatments like adsorption, ion exchange, membrane processes						
UNIT - II	Sewage and Treatment					
Domestic and Storm water, Quantity of Sewage, Sewage flow variations. Conveyance of sewage- Sewers, shapes design parameters, operation and maintenance of sewers, Sewage pumping; Sewerage, Sewer appurtenances, Design of sewerage systems. Small bore systems, Storm Water- Quantification and design of Storm water; Sewage and Sullage, Pollution due to improper disposal of sewage, National River cleaning plans, Wastewater treatment – COD & BOD- aerobic and anaerobic treatment systems, suspended and attached growth systems, recycling of sewage – quality requirements for various purposes.						
UNIT - III	Air Pollution					
Composition and properties of air, Quantification of air pollutants, Monitoring of air pollutants, Air pollution- Occupational hazards, Urban air pollution automobile pollution, Chemistry of combustion, Automobile engines, quality of fuel, operating conditions and interrelationship. Air quality standards, Control measures for Air pollution, construction and limitations.						
UNIT - IV	Solid Waste Management					
Municipal solid waste-Composition - chemical and physical parameters - Collection, transport, treatment and disposal. waste from commercial establishments and other urban zones construction activities - biomedical wastes, Effects of solid waste on environment. Disposal of solid waste- Disposal methods- Integrated solid waste management.						



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**CIVIL ENGINEERING**

<b>UNIT - V</b>	<b>Domestic Plumbing</b>
Types of home plumbing systems for water supply and waste water disposal, high rise building plumbing-Pressure reducing valves, Break pressure tanks, Storage tanks, Building drainage for high rise buildings, various kinds of fixtures and fittings. Role of Government authorities in water supply, sewerage disposal	
<b>Textbooks:</b>	
<ol style="list-style-type: none"> <li>1. G. S. Birdi, "Water supply and sanitary Engineering", Dhanpat Rai &amp; Sons Publishers.</li> <li>2. Peavy, H.S, Rowe, D. R. Tchobanoglous, "Environmental Engineering", Mc-Graw – Hill International Editions, New York 1985.</li> </ol>	
<b>Reference Books:</b>	
<ol style="list-style-type: none"> <li>1. B.C. Punmia, Ashok Jain &amp; Arun Jain, "Water Supply Engineering", Vol. 1, Waste water Engineering, Vol. II, Laxmi Publications Pvt. Ltd, New Delhi.</li> <li>2. MetCalf and Eddy, "Wastewater Engineering", Treatment, Disposal and Reuse, Tata McGraw- Hill, New Delhi.</li> <li>3. S. M. Patil, "Plumbing Engineering Theory, Design and Practice", 1999.</li> <li>4. K. N. Duggal, "Elements of Environmental Engineering", S. Chand Publishers.</li> </ol>	
<b>Online Learning Resources:</b>	
<ol style="list-style-type: none"> <li>1. <a href="https://nptel.ac.in/courses/103/107/103107084/">https://nptel.ac.in/courses/103/107/103107084/</a></li> <li>2. <a href="https://ocw.mit.edu/courses/environment-courses/">https://ocw.mit.edu/courses/environment-courses/</a></li> <li>3. <a href="https://learningpath.org/articles/Free_Online_Environmental_Engineering_Courses_from_Top_Universities.html">https://learningpath.org/articles/Free_Online_Environmental_Engineering_Courses_from_Top_Universities.html</a></li> <li>4. <a href="https://nptel.ac.in/noc/courses/noc19/SEM2/noc19-ge22/">https://nptel.ac.in/noc/courses/noc19/SEM2/noc19-ge22/</a></li> </ol>	

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**CIVIL ENGINEERING**

Course Code	ENVIRONMENTAL ENGINEERING LAB		L	T	P	C
20A01404P			0	0	3	1.5
Pre-requisite	NIL	Semester	IV			
<b>Course Objectives:</b>						
The object of the course is to enable the students to identify the characteristics of water sample						
<b>Course Outcomes (CO):</b>						
At the end of the course, the student will be able to Understand about quality of water standards						
<b>List of Experiments:</b>						
<ol style="list-style-type: none"> <li>1. Determination of pH and Electrical Conductivity (Salinity) of Water and Soil.</li> <li>2. Determination and estimation of Total Hardness-Calcium &amp; Magnesium.</li> <li>3. Determination of Alkalinity/Acidity</li> <li>4. Determination of Chlorides in water and soil</li> <li>5. Determination and Estimation of total solids, organic solids and inorganic solids and settleable solids by Imhoff Cone.</li> <li>6. Determination of Iron.</li> <li>7. Determination of Dissolved Oxygen with D.O. Meter &amp; Wrinklers Method and B.O.D.</li> <li>8. Determination of N, P, K values in solid waste</li> <li>9. Physical parameters – Temperature, Colour, Odour, Turbidity, Taste.</li> <li>10. Determination of C.O.D.</li> <li>11. Determination of Optimum coagulant dose.</li> <li>12. Determination of Chlorine demand.</li> <li>13. Presumptive Coliform test.</li> </ol>						
<b>References:</b>						
<ol style="list-style-type: none"> <li>1.G. S. Birdi "Water supply and sanitary Engineering", Dhanpat Rai &amp; Sons Publishers.</li> <li>2.Peavy, H.S, Rowe, D. R. Tchobanoglous, "Environmental Engineering", Mc-Graw -Hill International Editions, New York 1985</li> </ol>						

  
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(19A01603c) ENVIRONMENTAL AIR POLLUTION  
PROFESSIONAL ELECTIVE-II

**Course Objective:**

- To take up the basic concepts of air pollution.
- To introduce students to basic concepts of pollution.
- The contents involved the knowledge of causes of air pollution.
- The contents involved the knowledge of health related to air pollution.
- To develop skills relevant to control of air pollution.

**Unit – I**

Introduction and Scope - Environmental Systems: Source, Pollutant Transport and Impact on Receptor

Environmental Quality and Pollution: Air-Water quality parameters, units for expression; beneficial uses of water; water quality criteria and standards, air quality criteria, health effects and Indian national air quality standards (including methods for standard setting)

**Unit – II**

Air Pollution Sources and Assessment of Air Pollution Load- preparation of emission inventory, its presentation (data base) and interpretation Disposal, Fate and Transport of Waste: (i) pollutant dispersion in lakes, reservoirs, rivers, ground water, disposal and stream quality standards, (ii) air pollution dispersion, transportation and chemical transformation, meteorological parameters, simple box and gaussian type model for point, area and line (vehicular sources) (iii) Tutorials and simulated examples

**Unit – III**

Solid and Hazardous Waste Management: generation, collection, classification, processing and disposal, composting, land filling, incineration, hazardous waste definition and disposal

**Unit – IV**

Air Pollution Control Particulate removal mechanism and processes; reduction of gaseous pollution dry and wet scrubbing - Noise Pollution: causes, measurements, prevention and control

**Unit – V**

Environmental policies and regulations; water act, water cess act air act, environmental protection act, hazardous and biomedical waste rules, public liability insurance act, EIA notification, and regulatory mechanism -Environmental Impact Assessment (EIA): Assessment Procedure – Identification, prediction and evaluation; EIA methodologies; EIA statement and report preparation; examples and simulated case studies.

**Course Outcomes**

On the completion of the course one should be able to understand:

- Concepts of air pollution.
- How to estimate the quantity of air pollutant.
- Be able to develop control technologies.



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1.3.1 Institution Integrates cross cutting issues relevant to professional Ethics, Gender, Human values, Environment and Sustainability (2020-21)

Cross cutting issue	Regulation	Course code	Name of the Course	Year of study	Academic year
Human values and Professional Ethics	R20	20A52101T	Communicative English	I.I ( CIVIL, EEE, ECE )	2020-21
	R20	20A52101P	Communicative English <sup>LAB</sup>	I.I ( CIVIL, EEE, ECE )	2020-21
	R20	20A52201	Universal Human Values	I.II ( ME, CSE )	2020-21
	R19	19A52301	Universal Human Values	II.I(CIVIL, ME,CSE )	2020-21
	R19	19A52301	Universal Human Values	II.II(EEE,ECE )	2020-21
	R15	15A99501	Social Values and Ethics	III.I ( CSE )	2020-21
	R15	15A52602	AELCS Lab	III.II ( Common to All )	2020-21
	R17	17D20301	Research Methodology	M.Tech II-I(ES&DECS)	2020-21
	R17	17D20302	Human values and Professional Ethics	M.Tech II-I(SE,CSE)	2020-21
Environment and Sustainability	R20	20A99201	Environment Science	I.II ( CE, EEE,ECE )	2020-20
	R19	19A99301	Environment Science	II.I ( CIVIL )	2020-21
	R19	19A99301	Environment Science	II.II ( EEE,ECE )	2020-21
	R19	19A01406	Environmental Engineering	II.II ( CIVIL )	2020-21
	R19	19A01508	Environmental Engineering Lab	III-I(CE)	2020-21
	R15	15A01703	Environmental Engineering	IV.I ( CIVIL )	2020-21
	R15	15A01712	Environmental Engineering Lab	IV.I ( CIVIL )	2020-21
	R15	15A05607	Linux Environment System	III.II ( CSE )	2020-21

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(20A52101T) COMMUNICATIVE ENGLISH  
(Common to All Branches of Engineering)

**Course Objectives**

- Facilitate effective listening skills for better comprehension of academic lectures and English spoken by native speakers
- Focus on appropriate reading strategies for comprehension of various academic texts and authentic materials
- Help improve speaking skills through participation in activities such as role plays, discussions and structured talks/oral presentations
- Impart effective strategies for good writing and demonstrate the same in summarizing, writing well organized essays, record and report useful information
- Provide knowledge of grammatical structures and vocabulary and encourage their appropriate use in speech and writing

**UNIT -1**

**Lesson: On the Conduct of Life: William Hazlitt**

**Listening:** Identifying the topic, the context and specific pieces of information by listening to short audio texts and answering a series of questions. **Speaking:** Asking and answering general questions on familiar topics such as home, family, work, studies and interests; introducing oneself and others. **Reading:** Skimming to get the main idea of a text; scanning to look for specific pieces of information. **Reading for Writing :** Beginnings and endings of paragraphs - introducing the topic, summarizing the main idea and/or providing a transition to the next paragraph. **Grammar and Vocabulary:** Parts of Speech, Content words and function words; word forms: verbs, nouns, adjectives and adverbs; nouns: countable and uncountable; singular and plural; basic sentence structures; simple question form - wh-questions; word order in sentences.

**Learning Outcomes**

At the end of the module, the learners will be able to

- Understand social or transactional dialogues spoken by native speakers of English and identify the context, topic, and pieces of specific information
- Ask and answer general questions on familiar topics and introduce oneself/others
- Employ suitable strategies for skimming and scanning to get the general idea of a text and locate specific information
- Recognize paragraph structure and be able to match beginnings/endings/headings with paragraphs
- Form sentences using proper grammatical structures and correct word forms

**UNIT -2**

**Lesson: The Brook: Alfred Tennyson**

**Listening:** Answering a series of questions about main idea and supporting ideas after listening to audio texts. **Speaking:** Discussion in pairs/small groups on specific topics followed by short structured



talks. **Reading:** Identifying sequence of ideas; recognizing verbal techniques that help to link the ideas in a paragraph together. **Writing:** Paragraph writing (specific topics) using suitable cohesive devices; mechanics of writing - punctuation, capital letters. **Grammar and Vocabulary:** Cohesive devices - linkers, sign posts and transition signals; use of articles and zero article; prepositions.

### Learning Outcomes

At the end of the module, the learners will be able to

- Comprehend short talks on general topics
- Participate in informal discussions and speak clearly on a specific topic using suitable discourse markers
- Understand the use of cohesive devices for better reading comprehension
- Write well structured paragraphs on specific topics
- Identify basic errors of grammar/ usage and make necessary corrections in short texts

## UNIT -3

### Lesson: The Death Trap: Saki

**Listening:** Listening for global comprehension and summarizing what is listened to. **Speaking:** Discussing specific topics in pairs or small groups and reporting what is discussed. **Reading:** Reading a text in detail by making basic inferences -recognizing and interpreting specific context clues; strategies to use text clues for comprehension. **Writing:** Summarizing, Paragraph Writing **Grammar and Vocabulary:** Verbs - tenses; subject-verb agreement; direct and indirect speech, reporting verbs for academic purposes.

### Learning Outcomes

At the end of the module, the learners will be able to

- Comprehend short talks and summarize the content with clarity and precision
- Participate in informal discussions and report what is discussed
- Infer meanings of unfamiliar words using contextual clues
- Write summaries based on global comprehension of reading/listening texts
- Use correct tense forms, appropriate structures and a range of reporting verbs in speech and writing

## UNIT-4

### Lesson: Innovation: Muhammad Yunus

**Listening:** Making predictions while listening to conversations/ transactional dialogues without video; listening with video. **Speaking:** Role plays for practice of conversational English in academic contexts (formal and informal) - asking for and giving information/directions. **Reading:** Studying the use of graphic elements in texts to convey information, reveal trends/patterns/relationships, communicate processes or display complicated data. **Writing:** Letter Writing: Official Letters/Report Writing **Grammar and Vocabulary:** Quantifying expressions - adjectives and adverbs; comparing and contrasting; Voice - Active & Passive Voice

  
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## Learning Outcomes

At the end of the module, the learners will be able to

- Infer and predict about content of spoken discourse
- Understand verbal and non-verbal features of communication and hold formal/informal conversations
- Interpret graphic elements used in academic texts
- Produce a coherent paragraph interpreting a figure/graph/chart/table
- Use language appropriate for description and interpretation of graphical elements

## UNIT -5

### Lesson: Politics and the English Language: George Orwell

Listening: Identifying key terms, understanding concepts and answering a series of relevant questions that test comprehension. Speaking: Formal oral presentations on topics from academic contexts - without the use of PPT slides. Reading: Reading for comprehension. Writing: Writing structured essays on specific topics using suitable claims and evidences. Grammar and Vocabulary: Editing short texts –identifying and correcting common errors in grammar and usage (articles, prepositions, tenses, subject verb agreement)

## Learning Outcomes

At the end of the module, the learners will be able to

- Take notes while listening to a talk/lecture and make use of them to answer questions
- Make formal oral presentations using effective strategies
- Comprehend, discuss and respond to academic texts orally and in writing
- Produce a well-organized essay with adequate support and detail
- Edit short texts by correcting common errors

## Text Book:

1. Language and Life: A Skills Approach- I Edition 2019, Orient Black Swan

## Reference Books:

1. Bailey, Stephen. Academic writing: A handbook for international students. Routledge, 2014.
2. Chase, Becky Tarver. Pathways: Listening, Speaking and Critical Thinking. Heinley ELT; 2nd Edition, 2018.
3. Raymond Murphy's English Grammar in Use Fourth Edition (2012) E-book
4. Hewings, Martin. Cambridge Academic English (B2). CUP, 2012.
5. Oxford Learners Dictionary, 12<sup>th</sup> Edition, 2011
6. Norman Lewis Word Power Made Easy- The Complete Handbook for Building a Superior Vocabulary (2014)
7. Speed Reading with the Right Brain: Learn to Read Ideas Instead of Just Words by David Butler

  
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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**

**B.Tech (ECE)– I Sem**

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**(20A52101P) COMMUNICATIVE ENGLISH LAB**

(Common to All Branches of Engineering)

**Course Objectives**

- students will be exposed to a variety of self instructional, learner friendly modes of language learning
- students will learn better pronunciation through stress, intonation and rhythm
- students will be trained to use language effectively to face interviews, group discussions, public speaking
- students will be initiated into greater use of the computer in resume preparation, report writing, format making etc

**List of Topics**

1. Phonetics
2. Reading comprehension
3. Describing objects/places/persons
4. Role Play or Conversational Practice
5. JAM
6. Etiquettes of Telephonic Communication
7. Information Transfer
8. Note Making and Note Taking
9. E-mail Writing
10. Group Discussions-1
11. Resume Writing
12. Debates
13. Oral Presentations
14. Poster Presentation
15. Interviews Skills-1

**Suggested Software**


Orel, Walden Infotech, Young India Films

**Reference Books**

1. Bailey, Stephen. Academic writing: A handbook for international students. Routledge, 2014.
2. Chase, Becky Tarver. Pathways: Listening, Speaking and Critical Thinking. Heinley ELT; 2nd Edition, 2018.
3. Skillful Level 2 Reading & Writing Student's Book Pack (B1) Macmillan Educational.
4. Hewings, Martin. Cambridge Academic English (B2). CUP, 2012.
5. A Textbook of English Phonetics for Indian Students by T.Balasubramanyam

**Web Links**

[www.esl-lab.com](http://www.esl-lab.com)  
[www.englishmedialab.com](http://www.englishmedialab.com)  
[www.englishinteractive.net](http://www.englishinteractive.net)

  
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Tirupati Dist. (A.P.)

**(20A52201) UNIVERSAL HUMAN VALUES**  
**(Common to all branches)**

**Course Objective:**

The objective of the course is four fold:

- Development of a holistic perspective based on self-exploration about themselves (human being), family, society and nature/existence.
- Understanding (or developing clarity) of the harmony in the human being, family, society and nature/existence
- Strengthening of self-reflection.
- Development of commitment and courage to act.

**COURSE TOPICS:**

The course has 28 lectures and 14 practice sessions in 5 modules:

**Unit 1:**

**Course Introduction - Need, Basic Guidelines, Content and Process for Value Education**

- Purpose and motivation for the course, recapitulation from Universal Human Values-I
- Self-Exploration-what is it? - Its content and process; 'Natural Acceptance' and Experiential Validation- as the process for self-exploration
- Continuous Happiness and Prosperity- A look at basic Human Aspirations
- Right understanding, Relationship and Physical Facility- the basic requirements for fulfilment of aspirations of every human being with their correct priority
- Understanding Happiness and Prosperity correctly- A critical appraisal of the current scenario
- Method to fulfil the above human aspirations: understanding and living in harmony at various levels.

Include practice sessions to discuss natural acceptance in human being as the innate acceptance for living with responsibility (living in relationship, harmony and co-existence) rather than as arbitrariness in choice based on liking-disliking

**Unit 2:**

**Understanding Harmony in the Human Being - Harmony in Myself!**

- Understanding human being as a co-existence of the sentient 'I' and the material 'Body'
- Understanding the needs of Self ('I') and 'Body' - happiness and physical facility
- Understanding the Body as an instrument of 'I' (I being the doer, seer and enjoyer)



- Understanding the characteristics and activities of 'I' and harmony in 'I'
- Understanding the harmony of I with the Body: Sanyam and Health; correct appraisal of Physical needs, meaning of Prosperity in detail
- Programs to ensure Sanyam and Health.

Include practice sessions to discuss the role others have played in making material goods available to me. Identifying from one's own life. Differentiate between prosperity and accumulation. Discuss program for ensuring health vs dealing with disease

#### Unit 3:

#### Understanding Harmony in the Family and Society- Harmony in Human- Human Relationship

- Understanding values in human-human relationship; meaning of Justice (nine universal values in relationships) and program for its fulfilment to ensure mutual happiness; Trust and Respect as the foundational values of relationship
- Understanding the meaning of Trust; Difference between intention and competence
- Understanding the meaning of Respect, Difference between respect and differentiation; the other salient values in relationship
- Understanding the harmony in the society (society being an extension of family): Resolution, Prosperity, fearlessness (trust) and co-existence as comprehensive Human Goals
- Visualizing a universal harmonious order in society- Undivided Society, Universal Order- from family to world family.

Include practice sessions to reflect on relationships in family, hostel and institute as extended family, real life examples, teacher-student relationship, goal of education etc. Gratitude as a universal value in relationships. Discuss with scenarios. Elicit examples from students' lives

#### Unit 4:

#### Understanding Harmony in the Nature and Existence - Whole existence as Coexistence

- Understanding the harmony in the Nature
- Interconnectedness and mutual fulfilment among the four orders of nature- recyclability and self-regulation in nature
- Understanding Existence as Co-existence of mutually interacting units in all- pervasive space
- Holistic perception of harmony at all levels of existence.

Include practice sessions to discuss human being as cause of imbalance in nature (film "Home" can be used), pollution, depletion of resources and role of technology etc.

## Unit 5:

### Implications of the above Holistic Understanding of Harmony on Professional Ethics

- Natural acceptance of human values
- Definitiveness of Ethical Human Conduct
- Basis for Humanistic Education, Humanistic Constitution and Humanistic Universal Order
- Competence in professional ethics: a. Ability to utilize the professional competence for augmenting universal human order b. Ability to identify the scope and characteristics of people friendly and eco-friendly production systems, c. Ability to identify and develop appropriate technologies and management patterns for above production systems.
- Case studies of typical holistic technologies, management models and production systems
- Strategy for transition from the present state to Universal Human Order: a. At the level of individual: as socially and ecologically responsible engineers, technologists and managers b. At the level of society: as mutually enriching institutions and organizations
- Sum up.

Include practice Exercises and Case Studies will be taken up in Practice (tutorial) Sessions eg. To discuss the conduct as an engineer or scientist etc.

### Text Book

1. R R Gaur, R Asthana, G P Bagaria, "A Foundation Course in Human Values and Professional Ethics", 2<sup>nd</sup> Revised Edition, Excel Books, New Delhi, 2019. ISBN 978-93-87034-47-1
2. R R Gaur, R Asthana, G P Bagaria, "Teachers' Manual for A Foundation Course in Human Values and Professional Ethics", 2<sup>nd</sup> Revised Edition, Excel Books, New Delhi, 2019. ISBN 978-93-87034-53-2

### Reference Books

1. Jeevan Vidya: Ek Parichaya, A Nagaraj, Jeevan Vidya Prakashan, Amar kantak, 1999.
2. A. N. Tripathi, "Human Values", New Age Intl. Publishers, New Delhi, 2004.
3. The Story of Stuff (Book).
4. Mohandas Karamchand Gandhi "The Story of My Experiments with Truth"
5. E. F. Schumacher. "Small is Beautiful"
6. Slow is Beautiful – Cecile Andrews
7. J C Kumarappa "Economy of Permanence"
8. Pandit Sunderlal "Bharat Mein Angreji Raj"
9. Dharampal, "Rediscovering India"
10. Mohandas K. Gandhi, "Hind Swaraj or Indian Home Rule"
11. India Wins Freedom - Maulana Abdul Kalam Azad
12. Vivekananda - Romain Rolland (English)
13. Gandhi - Romain Rolland (English)

  
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**(19A52301) UNIVERSAL HUMAN VALUES 2: UNDERSTANDING HARMONY**  
(Common to all)

**Introduction:**

This course discusses the role of human values in one's family. It, very briefly, touches issues related to their role in the society and the nature, which needs to be discussed at length in one more semester for which the foundation course names as "H-102 Universal Human Values 2 : "Understanding Harmony" is designed which may be covered in their III or IV Semester.

In the Induction Program, students would get an initial exposure to human values through Universal Human Values-I. This exposure is to be augmented by this compulsory full semester foundation course.

**Course Objective:**

The objective of the course is four fold:

- Development of a holistic perspective based on self-exploration about themselves (human being), family, society and nature/existence.
- Understanding (or developing clarity) of the harmony in the human being, family, society and nature/existence
- Strengthening of self-reflection.
- Development of commitment and courage to act.

**COURSE TOPICS:**

The course has 28 lectures and 14 practice sessions in 5 modules:

**Unit -I:**

**Course Introduction - Need, Basic Guidelines, Content and Process for Value Education**

- Purpose and motivation for the course, recapitulation from Universal Human Values-I
- Self-Exploration-what is it? - Its content and process; 'Natural Acceptance' and Experiential Validation- as the process for self-exploration
- Continuous Happiness and Prosperity- A look at basic Human Aspirations
- Right understanding, Relationship and Physical Facility- the basic requirements for fulfilment of aspirations of every human being with their correct priority
- Understanding Happiness and Prosperity correctly- A critical appraisal of the current scenario
- Method to fulfil the above human aspirations: understanding and living in harmony

at various levels.

Include practice sessions to discuss natural acceptance in human being as the innate acceptance for living with responsibility (living in relationship, harmony and co-existence) rather than as arbitrariness in choice based on liking-disliking

#### **Unit -2:**

#### **Understanding Harmony in the Human Being - Harmony in Myself!**

- Understanding human being as a co-existence of the sentient 'I' and the material 'Body'
- Understanding the needs of Self ('I') and 'Body' - happiness and physical facility
- Understanding the Body as an instrument of 'I' (I being the doer, seer and enjoyer)
- Understanding the characteristics and activities of 'I' and harmony in 'I'
- Understanding the harmony of I with the Body: Sanyam and Health; correct appraisal of Physical needs, meaning of Prosperity in detail
- Programs to ensure Sanyam and Health.

Include practice sessions to discuss the role others have played in making material goods available to me. Identifying from one's own life. Differentiate between prosperity and accumulation. Discuss program for ensuring health vs dealing with disease

#### **Unit -3:**

#### **Understanding Harmony in the Family and Society- Harmony in Human- Human Relationship**

- Understanding values in human-human relationship; meaning of Justice (nine universal values in relationships) and program for its fulfilment to ensure mutual happiness; Trust and Respect as the foundational values of relationship
- Understanding the meaning of Trust; Difference between intention and competence
- Understanding the meaning of Respect, Difference between respect and differentiation; the other salient values in relationship
- Understanding the harmony in the society (society being an extension of family): Resolution, Prosperity, fearlessness (trust) and co-existence as comprehensive Human Goals
- Visualizing a universal harmonious order in society- Undivided Society, Universal Order- from family to world family.

Include practice sessions to reflect on relationships in family, hostel and institute as extended family, real life examples, teacher-student relationship, goal of education as Gratitude as a universal value in relationships. Discuss with scenarios. Examples from students' lives



#### Unit -4:

##### Understanding Harmony in the Nature and Existence - Whole existence as Coexistence

- Understanding the harmony in the Nature
- Interconnectedness and mutual fulfilment among the four orders of nature- recyclability and self-regulation in nature
- Understanding Existence as Co-existence of mutually interacting units in all-pervasive space
- Holistic perception of harmony at all levels of existence.

Include practice sessions to discuss human being as cause of imbalance in nature (film "Home" can be used), pollution, depletion of resources and role of technology etc.

#### Unit -5:

##### Implications of the above Holistic Understanding of Harmony on Professional Ethics

- Natural acceptance of human values
- Definitiveness of Ethical Human Conduct
- Basis for Humanistic Education, Humanistic Constitution and Humanistic Universal Order
- Competence in professional ethics: a. Ability to utilize the professional competence for augmenting universal human order b. Ability to identify the scope and characteristics of people friendly and eco-friendly production systems, c. Ability to identify and develop appropriate technologies and management patterns for above production systems.
- Case studies of typical holistic technologies, management models and production systems
- Strategy for transition from the present state to Universal Human Order: a. At the level of individual: as socially and ecologically responsible engineers, technologists and managers b. At the level of society: as mutually enriching institutions and organizations
- Sum up.

Include practice Exercises and Case Studies will be taken up in Practice (tutorial) Sessions eg. To discuss the conduct as an engineer or scientist etc.

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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**

B. Tech III-I Sem. (CSE) 

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15A99501 SOCIAL VALUES & ETHICS (AUDIT COURSE)  
*(Common to all Branches)*

**UNIT - I**

Introduction and Basic Concepts of Society: Family and Society: Concept of family, community, PRIs and other community based organizations and society, growing up in the family – dynamics and impact, Human values, Gender Justice.

Channels of Youth Moments for National Building: NSS & NCC: History, philosophy, aims & objectives; Emblems, flags, mottos, songs, badge etc.; Organizational structure, roles and responsibilities of various NSS functionaries. Nehru Yuva Kendra (NYK): Activities – Socio Cultural and Sports.

**UNIT – II**

Activities of NSS, NCC, NYK:

Citizenship: Basic Features Constitution of India, Fundamental Rights and Fundamental Duties, Human Rights, Consumer awareness and the legal rights of the consumer, RTI.

Youth and Crime: Sociological and psychological Factors influencing youth crime, Peer Mentoring in preventing crimes, Awareness about Anti-Ragging, Cyber Crime and its prevention, Juvenile Justice

Social Harmony and National Integration: Indian history and culture, Role of youth in peace-building and conflict resolution, Role of youth in Nation building.

**UNIT – III**

Environment Issues: Environment conservation, enrichment and Sustainability, Climate change, Waste management, Natural resource management (Rain water harvesting, energy conservation, waste land development, soil conservations and afforestation).

Health, Hygiene & Sanitation: Definition, needs and scope of health education, Food and Nutrition, Safe drinking water, Sanitation, Swachh Bharat Abhyan.

Disaster Management: Introduction to Disaster Management, classification of disasters, Role of youth in Disaster Management. Home Nursing, First Aid.

Civil/ Self Defense: Civil defense services, aims and objectives of civil defense, Need for self defense training – Teakwondo, Judo, karate etc.,



**UNIT – IV**

Gender Sensitization: Understanding Gender – Gender inequality – Role of Family, Society and State; Challenges – Declining Sex Ratio – Sexual Harassment – Domestic Violence; Gender Equality – Initiatives of Government – Schemes, Law, Initiatives of NGOs – Awareness, Movements;

**UNIT - V**

Physical Education : Games & Sports: Health and Recreation – Biological basis of Physical activity – benefits of exercise – Physical, Psychological, Social; Physiology of Muscular Activity, Respiration, Blood Circulation.

Yoga: Basics of Yoga – Yoga Protocol, Postures, Asanas, Pranayama: Introduction of Kriyas, Bandhas and Mudras.

**TEXT BOOKS:**

1. NSS MANUAL
2. SOCIETY AND ENVIRONMENT: A.S.Chauha, Jain Brothers Publications, 6<sup>th</sup> Edition, 2006
3. INDIAN SOCIAL PROBLEM: G.R.Madan, Asian Publisher House
4. INDIAN SOCIAL PROBLEM: Ram Ahuja, Rawat Publications
5. HUMAN SOCIETY: Kingsley Davis, Macmillan
6. SOCIETY: Mac Iver D Page, Macmillan
7. SOCIOLOGY – THEMES AND PERSPECTIVES: Michael Honalambos, Oxford University Press
8. CONSTITUTION OF INDIA: D.D.Basu, Lexis Nexis Butterworth Publishers
9. National Youth Policy 2014 (available on [www.yas.nic.in](http://www.yas.nic.in))
10. TOWARDS A WORLD OF EQUALS: A.Suneetha, Uma Bhugudanda, Duggirala Vasantha, Rama Melkote, Vasudha Nagraj, Asma Rasheed, Gogu Shyamala, Deepa Sreenivas and Susie Tharu
11. LIGHT ON YOGA : B.K.S.Iyengar, Penguin Random House Publishers

[www.un.org](http://www.un.org)

[www.india.gov.in](http://www.india.gov.in)

[www.yas.nic.in](http://www.yas.nic.in)

<http://www.who.int/countries/ind/en/>

<http://www.ndma.gov.in>

<http://ayush.gov.in/event/common-yoga-protocol-2016-0>

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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**

**B. Tech III-II Sem. (C.E)**

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**15A52602 ADVANCED ENGLISH LANGUAGE COMMUNICATION SKILLS  
(AELCS) LAB (Audit Course)**

**1. INTRODUCTION**

With increased globalization and rapidly changing industry expectations, employers are looking for the wide cluster of skills to cater to the changing demand. The introduction of the Advanced Communication Skills Lab is considered essential at 3<sup>rd</sup> year level. At this stage, the students need to prepare themselves for their careers which may require them to listen to, read, speak and write in English both for their professional and interpersonal communication in the globalised context.

The proposed course should be a laboratory course to enable students to use 'good' English and perform the following:

- Gathering ideas and information and to organise ideas relevantly and coherently.
- Engaging in debates.
- Participating in group discussions.
- Facing interviews.
- Writing project/research reports/technical reports.
- Making oral presentations.
- Taking part in social and professional communication.

**1. OBJECTIVES:**

This Lab focuses on using multi-media instruction for language development to meet the following targets:

- To improve the students' fluency in English, through a well-developed vocabulary and enable them to listen to English spoken at normal conversational speed by educated English speakers and respond appropriately in different socio-cultural and professional contexts.
- Further, they would be required to communicate their ideas relevantly and coherently in writing.
- To prepare all the students for their placements.



### **3. SYLLABUS:**

The following course content to conduct the activities is prescribed for the Advanced English Communication Skills (AECS) Lab:

#### **UNIT-I: COMMUNICATION SKILLS**

1. Reading Comprehension
2. Listening comprehension
3. Vocabulary Development
4. Common Errors

#### **UNIT-II: WRITING SKILLS**

1. Report writing
2. Resume Preparation
3. E-mail Writing

#### **UNIT-III: PRESENTATION SKILLS**

1. Oral presentation
2. Power point presentation
3. Poster presentation

#### **UNIT-IV: GETTING READY FOR JOB**

1. Debates
2. Group discussions
3. Job Interviews

#### **UNIT-V: INTERPERSONAL SKILLS**

1. Time Management
2. Problem Solving & Decision Making
3. Etiquettes

### **4. LEARNING OUTCOMES:**

- Accomplishment of sound vocabulary and its proper use contextually
- Flair in Writing and felicity in written expression.
- Enhanced job prospects.
- Effective Speaking Abilities
- 

### **5. MINIMUM REQUIREMENT:**

The Advanced English Communication Skills (AECS) Laboratory shall have the following infra-structural facilities to accommodate at least 60 students in the lab:

- Spacious room with appropriate acoustics.
- Round Tables with movable chairs
- Audio-visual aids
- LCD Projector
- Public Address system

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- P – IV Processor, Hard Disk – 80 GB, RAM–512 MB Minimum, Speed – 2.8 GHZ
- T. V, a digital stereo & Camcorder
- Headphones of High quality

## 6. SUGGESTED SOFTWARE:

The software consisting of the prescribed topics elaborated above should be procured and G

1. **Walden Infotech: Advanced English Communication Skills Lab**
2. **K-VAN SOLUTIONS-Advanced English Language Communication Skills lab**
3. **DELTA's key to the Next Generation TOEFL Test: Advanced Skills Practice.**
4. **TOEFL & GRE( KAPLAN, AARCO & BARRONS, USA, Cracking GRE by CLIFFS)**
5. **Train2success.com**

## 7. BOOKS RECOMMENDED:

1. **Objective English for Competitive Exams**, Hari Mohana Prasad, 4<sup>th</sup> edition, Tata Mc Graw Hill.
2. **Technical Communication** by Meenakshi Raman & Sangeeta Sharma, O U Press 3<sup>rd</sup> Edn. 2015.
3. **Essay Writing for Exams**, Audrone Raskauskiene, Irena Ragaisiene & Ramute Zemaitiene, OUP, 2016
4. **Soft Skills for Everyone**, Butterfield Jeff, Cengage Publications, 2011.
5. **Management Shapers Series** by Universities Press (India) Pvt Ltd., Himayatnagar, Hyderabad 2008.
6. **Campus to Corporate**, Gangadhar Joshi, Sage Publications, 2015
7. **Communicative English**, E Suresh Kumar & P.Sreehari, Orient Blackswan, 2009.
8. **English for Success in Competitive Exams**, Philip Sunil Solomon OUP, 2015



(17D20301) RESEARCH METHODOLOGY  
(Elective V-OPEN ELECTIVE )

UNIT I

Meaning of Research – Objectives of Research – Types of Research – Research Approaches – Guidelines for Selecting and Defining a Research Problem – research Design – Concepts related to Research Design – Basic Principles of Experimental Design.

UNIT II

Sampling Design – steps in Sampling Design –Characteristics of a Good Sample Design – Random Sampling Design.  
Measurement and Scaling Techniques-Errors in Measurement – Tests of Sound Measurement – Scaling and Scale Construction Techniques – Time Series Analysis – Interpolation and Extrapolation.  
Data Collection Methods – Primary Data – Secondary data – Questionnaire Survey and Interviews.

UNIT III

Correlation and Regression Analysis – Method of Least Squares – Regression vs Correlation – Correlation vs Determination – Types of Correlations and Their Applications

UNIT IV

Statistical Inference: Tests of Hypothesis – Parametric vs Non-parametric Tests – Hypothesis Testing Procedure – Sampling Theory – Sampling Distribution – Chi-square Test – Analysis of variance and Co-variance – Multi-variate Analysis.

UNIT V

Report Writing and Professional Ethics: Interpretation of Data – Report Writing – Layout of a Research Paper – Techniques of Interpretation- Making Scientific Presentations in Conferences and Seminars – Professional Ethics in Research.

Text Books:

- Research Methodology:Methods And Techniques – C.R.Kothari, 2<sup>nd</sup> Edition,New Age International Publishers.  
Research Methodology: A Step By Step Guide For Beginners- Ranjit Kumar, Sage Publications (Available As Pdf On Internet)  
Research Methodology And Statistical Tools – P.Narayana Reddy And G.V.R.K.Acharyulu, 1<sup>st</sup> Edition,Excel Books,New Delhi.

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**  
**M.Tech III semester (SE)**

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**(17D20302) HUMAN VALUES AND PROFESSIONAL ETHICS**  
**(Elective V-OPEN ELECTIVE )**

**Unit I:**

**HUMAN VALUES:** Morals, Values and Ethics-Integrity-Work Ethic-Service learning – Civic Virtue – Respect for others – Living Peacefully – Caring – Sharing – Honesty – Courage- Co Operation – Commitment – Empathy –Self Confidence Character – Spirituality.

**Unit II:**

**ENGINEERING ETHICS:** Senses of Engineering Ethics- Variety of moral issues – Types of inquiry – Moral dilemmas – Moral autonomy –Kohlberg"s theory- Gilligan"s theory- Consensus and controversy – Models of professional roles- Theories about right action- Self interest - Customs and religion –Uses of Ethical theories – Valuing time –Co operation – Commitment.

**Unit III :**

**ENGINEERING AS SOCIAL EXPERIMENTATION:** Engineering As Social Experimentation – Framing the problem – Determining the facts – Codes of Ethics – Clarifying Concepts – Application issues – Common Ground - General Principles – Utilitarian thinking respect for persons.

**UNIT IV:**

**ENGINEERS RESPONSIBILITY FOR SAFETY AND RISK:** Safety and risk – Assessment of safety and risk – Risk benefit analysis and reducing riskSafety and the Engineer- Designing for the safety- Intellectual Property rights(IPR).

**UNIT V:**

**GLOBAL ISSUES:** Globalization – Cross culture issues- Environmental Ethics – Computer Ethics – Computers as the instrument of Unethical behavior – Computers as the object of Unethical acts – Autonomous Computers- Computer codes of Ethics – Weapons Development - Ethics .



**Text Books :**

1. "Engineering Ethics includes Human Values" by M.Govindarajan, S.Natarajan and V.S.SenthilKumar-PHI Learning Pvt. Ltd-2009.
2. "Engineering Ethics" by Harris, Pritchard and Rabins, CENGAGE Learning, India Edition, 2009.
3. "Ethics in Engineering" by Mike W. Martin and Roland Schinzinger – Tata McGrawHill– 2003.
4. "Professional Ethics and Morals" by Prof.A.R.Aryasri, Dharanikota Suyodhana-Maruthi Publications.
5. "Professional Ethics and Human Values" by A.Alavudeen, R.Kalil Rahman and M.Jayakumaran , Laxmi Publications.

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR  
B.Tech (ECE)– II Sem

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(20A99201) ENVIRONMENTAL SCIENCE  
(Common to All Branches of Engineering)

**Course Objectives:**

- 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.

**UNIT – I**

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

**Natural Resources :** Renewable and non-renewable resources – Natural resources and associated problems – Forest resources – Use and over – exploitation, deforestation, case studies – Timber extraction – Mining, dams and other effects on forest and tribal people – Water resources – Use and over utilization of surface and ground water – Floods, drought, conflicts over water, dams – benefits and problems – Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies – 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:

**Learning outcomes:**

At the end of this unit, the students will be able to

- To know the importance of public awareness
- To know about the various resources

**UNIT – II**

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

- a. Forest ecosystem.
- b. Grassland ecosystem
- c. Desert ecosystem
- d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

**Biodiversity And Its Conservation :** Introduction 0 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, National and local levels – India as a mega-diversity nation – Hot-spots of biodiversity – Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts – Endangered and endemic species of India – Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

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**Learning outcomes:**

At the end of this unit, the students will be able to

- To know about various eco systems and their characteristics
- To know about the biodiversity and its conservation

**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:**

At the end of this unit, the students will be able to

- To know about the various sources of pollution.
- To know about the various sources of solid waste and preventive measures.
- To know about 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, watershed management – Resettlement and rehabilitation of people; its problems and concerns. Case studies – Environmental ethics: Issues and possible solutions – Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies – Wasteland reclamation. – Consumerism and waste products. – Environment Protection Act. – Air (Prevention and Control of Pollution) Act. – Water (Prevention and control of Pollution) Act – Wildlife Protection Act – Forest Conservation Act – Issues involved in enforcement of environmental legislation – Public awareness.

**Learning outcomes:**

At the end of this unit, the students will be able to

- To know about the social issues related to environment and their protection acts.
- To know about the various sources of conservation of natural resources.
- To know about the wild life protection and forest conservation acts.

## 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 – Case studies.

**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:

At the end of this unit, the students will be able to

- To know about the population explosion and family welfare programmes.
- To identify the natural assets and related case studies.

### TEXT BOOKS:

1. Text book of Environmental Studies for Undergraduate Courses Erach Bharucha for University Grants Commission, Universities Press.
2. Palaniswamy, "Environmental Studies", Pearson education
3. S.Azeem Unnisa, "Environmental Studies" Academic Publishing Company
4. K.Raghavan Nambiar, "Text book of Environmental Studies for Undergraduate Courses as per UGC model syllabus", Scitech Publications (India), Pvt. Ltd.

### REFERENCES:

1. Deeksha Dave and E.Sai Baba Reddy, "Textbook of Environmental Science", Cengage Publications.
2. M.Anji Reddy, "Text book of Environmental Sciences and Technology", BS Publication.
3. J.P.Sharma, Comprehensive Environmental studies, Laxmi publications.
4. J. Glynn Henry and Gary W. Heinke, "Environmental Sciences and Engineering", Prentice hall of India Private limited
5. G.R.Chatwal, "A Text Book of Environmental Studies" Himalaya Publishing House
6. Gilbert M. Masters and Wendell P. Ela, "Introduction to Environmental Engineering and Science, Prentice hall of India Private limited.

### Course Outcomes:

At the end of the course, the student will be able to

- Grasp multidisciplinary nature of environmental studies and various renewable and nonrenewable resources.
- Understand flow and bio-geo- chemical cycles and ecological pyramids.
- Understand various causes of pollution and solid waste management and related preventive measures.
- About the rainwater harvesting, watershed management, ozone layer depletion and waste land reclamation.
- Casus of population explosion, value education and welfare programmes.

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(19A99301) ENVIRONMENTAL SCIENCE

**Course Objectives:**

- 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.

**UNIT – I:**

**Multidisciplinary Nature of Environmental Studies:** – Definition, Scope and Importance – Need for Public Awareness.

**Natural Resources :** Renewable and non-renewable resources – Natural resources and associated problems – Forest resources – Use and over – exploitation, deforestation, case studies – Timber extraction – Mining, dams and other effects on forest and tribal people – Water resources – Use and over utilization of surface and ground water – Floods, drought, conflicts over water, dams – benefits and problems – Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies – 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:

**Unit Outcomes**

- To know the importance of public awareness
- To know about the various resources

**UNIT – II:**

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

- a. Forest ecosystem.
- b. Grassland ecosystem
- c. Desert ecosystem
- d. Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

**Biodiversity And Its Conservation :** Introduction 0 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, National and local levels – India as a mega-diversity nation – Hot-spots of biodiversity – Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts – Endangered and endemic species of India – Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

**Course Outcomes:**

- To know about various eco systems and their characteristics
- To know about the biodiversity and its conservation

**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.

**Course Outcomes:**

- To know about the various sources of pollution.
- To know about the various sources of solid waste and preventive measures.
- To know about 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, watershed management – Resettlement and rehabilitation of people; its problems and concerns. Case studies – Environmental ethics: Issues and possible solutions – Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies – Wasteland reclamation. – Consumerism and waste products. – Environment Protection Act. – Air (Prevention and Control of Pollution) Act. – Water (Prevention and control of Pollution) Act – Wildlife Protection Act – Forest Conservation Act – Issues involved in enforcement of environmental legislation – Public awareness.

**Course Outcomes:**



- To know about the social issues related to environment and their protection acts.
- To know about the various sources of conservation of natural resources.
- To know about the wild life protection and forest conservation acts.

## 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 – Case studies.

**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..

### Unit Outcomes:

- To know about the population explosion and family welfare programmes.
- To identify the natural assets and related case studies.

### Course Outcomes:

At the end of the course, the student will be able to

- Grasp multidisciplinary nature of environmental studies and various renewable and nonrenewable resources.
- Understand flow and bio-geo- chemical cycles and ecological pyramids.
- Understand various causes of pollution and solid waste management and related preventive measures.
- About the rainwater harvesting, watershed management, ozone layer depletion and waste land reclamation.
- Casus of population explosion, value education and welfare programmes.

### TEXT BOOKS:

1. Text book of Environmental Studies for Undergraduate Courses Erach Bharucha for University Grants Commission, Universities Press.
2. Palaniswamy, "Environmental Studies", Pearson education
3. S.Azeem Unnisa, "Environmental Studies" Academic Publishing Company
4. K.Raghavan Nambiar, "Text book of Environmental Studies for Undergraduate Courses as per UGC model syllabus", Scitech Publications (India), Pvt. Ltd.

### REFERENCES:

1. Deeksha Dave and E.Sai Baba Reddy, "Textbook of Environmental Science", Cengage Publications.
2. M.Anji Reddy, "Text book of Environmental Sciences and Technology", BS Publication.
3. J.P.Sharma, Comprehensive Environmental studies, Laxmi publications.
4. J. Glynn Henry and Gary W. Heinke, "Environmental Sciences and Engineering", Prentice hall of India Private limited
5. G.R.Chatwal, "A Text Book of Environmental Studies" Himalaya Publishing House
6. Gilbert M. Masters and Wendell P. Ela, "Introduction to Environmental Engineering and Science, Prentice hall of India Private limited.

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(19A01406) ENVIRONMENTAL ENGINEERING

**Course Objectives:**

- To teach requirements of water and its treatment.
- To impart knowledge on sewage treatment methodologies.
- To provide facts on Air pollution and control.
- To enable with design concepts of wastewater treatment UNITs
- To throw light on importance of plumbing.

**UNIT I:**

**Water quality and treatment:**

Water quality: Sources of Water and quality issues, water quality requirement for different beneficial uses, Water quality standards, water quality indices, water safety plans, Water Supply systems, Need for planned water supply schemes, Water demand industrial and agricultural water requirements, Components of water supply system; Transmission of water, Distribution system, Various valves used in W/S systems, service reservoirs and design.

*Water Treatment:* aeration, sedimentation, coagulation flocculation, filtration, disinfection, advanced treatments like adsorption, ion exchange, membrane processes

**Unit Outcomes**

- Understand importance of water quality
- Explain water quality standards
- Plan water supply systems in terms of transmission and distribution
- Categorize different water treatment procedures

**UNIT II:**

**Sewage and Treatment:**

Domestic and Storm water, Quantity of Sewage, Sewage flow variations. Conveyance of sewage- Sewers, shapes design parameters, operation and maintenance of sewers, Sewage pumping; Sewerage, Sewer appurtenances, Design of sewerage systems. Small bore systems, Storm Water- Quantification and design of Storm water; Sewage and Sullage, Pollution due to improper disposal of sewage, National River cleaning plans, Wastewater treatment – COD & BOD- aerobic and anaerobic treatment systems, suspended and attached growth systems, recycling of sewage – quality requirements for various purposes.

**Unit Outcomes**

- Distinguish characteristics of domestic and storm water
- Plan Sewage treatment and disposal methodologies
- Assess quality of waste water parameters
- Design waste water treatment systems leading to cleaning of rivers

**UNIT III:**

**Air Pollution;**

Composition and properties of air, Quantification of air pollutants, Monitoring of air pollutants, Air pollution- Occupational hazards, Urban air pollution automobile pollution, Chemistry of combustion, Automobile engines, quality of fuel, operating conditions and interrelationship. Air quality standards, Control measures for Air pollution, construction and limitations.

### **Unit Outcomes**

- Identify causes and types of air pollution
- Understand occupational hazards due to different pollutions
- Assess air quality parameters
- Design methodologies to control air pollution

### **UNIT IV:**

#### **Solid Waste Management-**

Municipal solid waste-Composition - chemical and physical parameters - Collection, transport, treatment and disposal. waste from commercial establishments and other urban zones- construction activities - biomedical wastes, Effects of solid waste on environment. Disposal of solid waste- Disposal methods- Integrated solid waste management.

### **Unit Outcomes**

- Segregate different types of municipal wastes
- Understand stages of handling municipals solid wastes
- Sewage treatment and disposal methodologies
- Design solid waste disposal leading to integrated solid waste management

### **UNIT V:**

#### **Domestic Plumbing**

Types of home plumbing systems for water supply and waste water disposal, high rise building plumbing-Pressure reducing valves, Break pressure tanks, Storage tanks, Building drainage for high rise buildings, various kinds of fixtures and fittings. Role of Government authorities in water supply, sewerage disposal.

### **Unit Outcomes**

- Understand the importance of plumbing.
- Explain different plumbing techniques

### **Course Outcomes:**

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

- Understand about quality of water and purification process
- Select appropriate technique for treatment of waste water.
- Assess the impact of air pollution
- Understand consequences of solid waste and its management.

  
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(19A01508)ENVIRONMENTAL ENGINEERING LAB

**OBJECTIVE:** The object of the course is to enable the students to identify the characteristics of water sample.

**LABORATORY EXPERIMENTS**

- 1.Determination of pH and Electrical Conductivity (Salinity) of Water and Soil.
- 2.Determination and estimation of Total Hardness–Calcium & Magnesium.
- 3.Determination of Alkalinity/Acidity
- 4.Determination of Chlorides in water and soil
- 5.Determination and Estimation of total solids, organic solids and inorganic solids and settleable solids by Imhoff Cone.
- 6.Determination of Iron.
- 7.Determination of Dissolved Oxygen with D.O. Meter & Wrinklers Method and B.O.D.
- 8.Determination of N, P, K values in solid waste
- 9.Physical parameters – Temperature, Colour, Odour, Turbidity, Taste.
- 10.Determination of C.O.D.
- 11.Determination of Optimum coagulant dose.
- 12.Determination of Chlorine demand.
- 13.Presumptive Coliform test.

**Course Outcomes:**

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

- Understand about quality of water and purification process
- Select appropriate technique for treatment of waste water.
- Assess the impact of air pollution
- Understand consequences of solid waste and its management.
- Design domestic plumbing systems.

**TEXT BOOKS:**

- 1.G. S. Birdi “Water supply and sanitary Engineering”, Dhanpat Rai & Sons Publishers.
- 2.Peavy, H.S, Rowe, D. R. Tchobanoglous, “Environmental Engineering”, Mc-Graw –Hill International Editions, New York 1985.

**REFERENCES:**

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR

B. Tech IV-I Sem. (C.E)

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3	1	0	3

15A01703 ENVIRONMENTAL ENGINEERING

**Course Objective:** This subject provides the knowledge of water sources, water treatment, design of distribution system, waste water treatment, and safe disposal methods. The topics of characteristics of waste water, sludge digestion are also included.

**UNIT – I**

**INTRODUCTION:** Importance and Necessity of Protected Water Supply systems, Objectives of Protected water supply system, Flow chart of public water supply system, Role of Environmental Engineer.

**WATER DEMAND AND QUANTITY STUDIES :** Estimation of water demand for a town or city, Types of water demands, Per capita Demand, Factors affecting the Per Capita Demand, Variations in the Demand, Design Period, Factors affecting the Design period, Population Studies, Population Forecasting Studies.

**QUALITY AND ANALYSIS OF WATER:** Characteristics of water – Physical, Chemical and Biological. Analysis of Water – Physical, Chemical and Biological. Impurities in water, Water borne diseases. Drinking water quality standards.

**UNIT - II**

**WATER TREATMENT:** Layout and general outline of water treatment units – sedimentation – principles – design factors – coagulation-flocculation clarifier design – coagulants – feeding arrangements. Filtration and Chlorination: Filtration – theory – working of slow and rapid gravity filters – multimedia filters – design of filters – troubles in operation comparison of filters – disinfection – theory of chlorination, chlorine demand, other disinfection practices- Miscellaneous treatment methods

**WATER DISTRIBUTION :** Distribution systems – Requirements, Layout of Water distribution systems - Design procedures- Hardy Cross and equivalent pipe methods service reservoirs – joints, valves such as sluice valves, air valves, scour valves and check valves water meters – laying and testing of pipe lines – pump house, waste detection and prevention.

**UNIT – III**

**INTRODUCTION TO SANITATION :** systems of sanitation – relative merits & demerits – collection and conveyance of waste water – sewerage – classification of sewerage



**R15**

systems- Estimation of sewage flow and storm water drainage – fluctuations – types of sewers – Hydraulics of sewers and storm drains– design of sewers – materials for sewers- appurtenances in sewerage – cleaning and ventilation of sewers .

**WASTE WATER COLLECTION AND CHARACTERISTICS** : Conservancy and water carriage systems – sewage and storm water estimation – time of concentration – storm water overflows combined flow – characteristics of sewage – cycles of decay – decomposition of sewage, examination of sewage – B.O.D. – C.O.D. equations.

#### **UNIT IV**

**WASTE WATER TREATMENT:** Layout and general out line of various units in a waste water treatment plant – primary treatment: design of screens – grit chambers – skimming tanks – sedimentation tanks – principles of design – biological treatment – trickling filters – standard and high rate – Construction and design of Oxidation ponds.

**SLUDGE TREATMENT:** Sludge digestion – factors effecting – design of Digestion tank – Sludge disposal by drying – septic tanks and Imhoff Tanks, working principles and design – soak pits.

#### **UNIT – V**

**SOLID WASTE MANAGEMENT:** Characteristics, generation, collection and transportation of solid wastes, engineered systems for solid waste management (reuse/ recycle, energy recovery, treatment and disposal).

**AIR POLLUTION:** Types of pollutants, their sources and impacts, air pollution meteorology, air pollution control, air quality standards and limits.

**NOISE POLLUTION:** Impacts of noise, permissible limits of noise pollution, measurement of noise and control of noise pollution.

#### **TEXT BOOKS:**

1. Water Supply And Sanitary Engineering By G.S. Birdi, Dhanpat Rai & Sons Publishers.
2. Water Supply Engineering, Vol. 1, Waste Water Engineering, Vol. II, B.C.Punmia, Ashok Jain & Arun Jain, Laxmi Publications Pvt.Ltd, New Delhi
3. Environmental Engineering By Peavy, TMH Publishers.

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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**

**B. Tech IV-I Sem. (C.E)**

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**15A01712 ENVIRONMENTAL ENGINEERING LABORATORY**

**Course Objective:**

*The laboratory provides knowledge of estimating various parameters like PH, Chlorides, Sulphates, Nitrates in water. For effective water treatment, the determination of optimum dosage of coagulant and chloride demand are also included. The estimation status of Industrial effluents will also be taught in the laboratory by estimating BOD and COD of effluent.*

**LIST OF EXPERIMENTS**

1. Determination of pH and Turbidity
2. Determination of Conductivity and Total dissolved solids.
3. Determination of Alkalinity/Acidity.
4. Determination of Chlorides.
5. Determination and Estimation of total solids, organic solids and inorganic solids.
6. Determination of iron.
7. Determination of Dissolved Oxygen.
8. Determination of Nitrogen.
9. Determination of total Phosphorous.
10. Determination of B.O.D
11. Determination of C.O.D
12. Determination of Optimum coagulant dose.
13. Determination of Chlorine demand.
14. Presumptive coliform test.

**NOTE:** At least 8 of the above experiments are to be conducted.

  
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R15

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR

	L	T	P	C
B. Tech III-II Sem. (CSE)	3	1	0	3
15A05807 LINUX ENVIRONMENT SYSTEM (CBCC-I)				

Course Objectives:

The student should be made to:

- Understand the Multiuser, Multiprocessing, Multitasking, and multiprogramming environment.
- Learn the various flavors and installation types of Linux operating system.
- Experiences the installation and configuration status of Linux system.
- Learn the file system and various commands of Linux environment system.

Course Outcomes:

- Able to describe and use the LINUX operating system.
- Able to describe and use the fundamental LINUX system tools and utilities.
- Able to describe and write shell scripts in order to perform basic shell programming.
- Able to describe and understand the LINUX file system.

UNIT-I

**INTRODUCTION TO LINUX OPERATING SYSTEM:** Introduction and Types of Operating Systems, Linux Operating System, Features, Architecture Of Linux OS and Shell Interface, Linux System Calls, Linux Shared Memory Management, Device and Disk Management in Linux, Swap space and its management. File System and Directory Structure in Linux. Multi-Processing, load sharing and Multi-Threading in Linux, Types of Users in Linux, Capabilities of Super Users and equivalents.

UNIT-II

**INSTALLING LINUX AS A SERVER :** Linux and Linux Distributions ; Major differences between various Operating Systems (on the basis of: Single Users vs Multiusers vs Network Users; Separation of the GUI and the Kernel; Domains; Active Directory);.

**INSTALLING LINUX IN A SERVER CONFIGUARTION :** Before Installation; Hardware; Server Design ;Dual-Booting Issues; Modes of Installation; Installing Fedora Linux; Creating a Boot Disk; Starting the Installation; GNOME AND KDE

**R15**

: The History of X Windows; The Downside; Enter GNOME; About GNOME ; Starting X Windows and GNOME; GNOME Basics; The GNOME Configuration Tool.

**UNIT-III**

**INSTALLING SOFTWARE :** The Fedora Package Manager; Installing a New Package using dpkg and RPM; Querying a Package; Uninstalling a Package using dpkg and RPM; Compiling Software; Getting and Unpacking the Package; Looking for Documentation; Configuring the Package; Compiling Your Package; Installing the Package, Driver Support for various devices in linux.

**MANAGING USERS:** Home Directories ;Passwords; Shells; Startup Scripts; Mail; User Databases; The / etc /passwd File; The / etc / shadow File; The / etc /group File; User Management Tools; Command-Line User Management; User LinuxConf to Manipulate Users and Groups; SetUID and SetGID Programs.

**UNIT IV**

**THE COMMAND LINE :** An Introduction to BASH, KORN, C, A Shell etc. ; BASH commands: Job Control; Environment Variables; Pipes; Redirection; Command-Line Shortcuts; Documentation Tools; The man Command; the text info System; File Listings; Owner ships and permissions; Listing Files; File and Directory Types; Change Ownership; Change Group; Change Mode ; File Management and Manipulation; Process Manipulation; Miscellaneous Tools; Various Editors Available like: Vi and its modes, Pico, Joe and emacs, , Su Command.

**BOOTING AND SHUTTING DOWN:** LILO and GRUB; Configuring LILO; Additional LILO options; Adding a New Kernel to Boot ; Running LILO; The Steps of Booting; Enabling and disabling Services.

**UNIT-V**

**FILE SYSTEMS:** The Makeup File Systems; Managing File Systems; Adding and Partitioning a Disk; Network File Systems; Quota Management;

**CORE SYSTEM SERVICES:** The init Service; The inetd and xinetd Processes; The syslogd Daemon; The cron Program.

**PRINTING :** The Basic of lpd; Installing LPRng; Configuring /etc/printcap; The /ETC/lpd.perms File; Clients of lpd, Interfacing Printer through Operating System.

**Text Books:**

1. Linux Administration : A Beginner's Guide by Steve Shah , Wale Soyinka, ISBN 0072262591 (0-07-226259-1), McGraw-Hill Education.
2. Unix Shell Programming, Yashavant P. Kanetkar, BPB Publications, 2003.
3. UNIX Concepts and Applications by Sumitabha Das Tata McGraw-Hill, 2006.



**R15**

- P – IV Processor, Hard Disk – 80 GB, RAM–512 MB Minimum, Speed – 2.8 GHZ
- T. V, a digital stereo & Camcorder
- Headphones of High quality


#### **6. SUGGESTED SOFTWARE:**

The software consisting of the prescribed topics elaborated above should be procured and G

1. **Walden Infotech: Advanced English Communication Skills Lab**
2. **K-VAN SOLUTIONS-Advanced English Language Communication Skills lab**
3. **DELTA's key to the Next Generation TOEFL Test: Advanced Skills Practice.**
4. **TOEFL & GRE( KAPLAN, AARCO & BARRONS, USA, Cracking GRE by CLIFFS)**
5. **Train2success.com**

#### **7. BOOKS RECOMMENDED:**

1. **Objective English for Competitive Exams**, Hari Mohana Prasad, 4<sup>th</sup> edition, Tata Mc Graw Hill.
2. **Technical Communication** by Meenakshi Raman & Sangeeta Sharma, O U Press 3<sup>rd</sup> Edn. 2015.
3. **Essay Writing for Exams**, Audrone Raskauskiene, Irena Ragaisience & Ramute Zemaitience, OUP, 2016
4. **Soft Skills for Everyone**, Butterfield Jeff, Cengage Publications, 2011.
5. **Management Shapers Series** by Universities Press (India) Pvt Ltd., Himayatnagar, Hyderabad 2008.
6. **Campus to Corporate**, Gangadhar Joshi, Sage Publications, 2015
7. **Communicative English**, E Suresh Kumar & P.Sreehari, Orient Blackswan, 2009.
8. **English for Success in Competitive Exams**, Philip Sunil Solomon OUP, 2015

  
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**SIDDARTHA EDUCATIONAL ACADEMY GROUP OF INSTITUTIONS****(An Integrated Campus for Engineering & MBA)****Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu, AP.****Near C. Gollapalli, Tirupati – 517 505, Andhra Pradesh**

1.3.1 Institution Integrates cross cutting issues relevant to professional Ethics, Gender, Human values, Environment and Sustainability (2019-20)

<b>Cross cutting issue</b>	<b>Regulation</b>	<b>Course code</b>	<b>Name of the Course</b>	<b>Year of study</b>	<b>Academic year</b>
Human values and Professional Ethics	R19	19A52101T	Communicative English -1	I.I (CIVIL,EEE,ECE)	2019-20
	R19	19A52101P	Communicative English Lab	I.I (CIVIL,EEE,ECE)	2019-20
	R15	15A99501	Social Values and Ethics	III.I ( CSE )	2019-20
	R19	19A52101T	Communicative English -1	I.II (CSE,ME)	2019-20
	R19	19A52101P	Communicative English Lab	I.II (CSE,ME)	2019-20
	R15	15A52602	AELCS Lab	III.II ( Common to All )	2019-20
	R17	17D20301	Research Methodology	M.Tech II-I ( ES&DECS)	2019-20
	R17	17D20302	Human values and Professional Ethics	M.Tech(II-I SE,CSE)	2019-20
Environment and Sustainability	R15	15A01703	Environmental Engineering	IV.I (CIVIL)	2019-20
	R15	15A01712	Environmental Engineering Lab	IV.I (CIVIL)	2019-20
	R15	15A05607	Linux Environment System	III.II ( CSE )	2019-20

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Tirupati Dist. (A.P.)



**(19A52101T) Communicative English I**  
(Common to All Branches of Engineering)

**Introduction**

The course is designed to train students in receptive (listening and reading) as well as productive and interactive (speaking and writing) skills by incorporating a comprehensive, coherent and integrated approach that improves the learners' ability to effectively use English language in academic/ workplace contexts. The shift is from *learning about the language* to *using the language*. On successful completion of the compulsory English language course/s in B.Tech., learners would be confident of appearing for international language qualification/proficiency tests such as IELTS, TOEFL, or BEC, besides being able to express themselves clearly in speech and competently handle the writing tasks and verbal ability component of campus placement tests. Activity based teaching-learning methods would be adopted to ensure that learners would engage in actual use of language both in the classroom and laboratory sessions.

**Course Objectives**

- Facilitate effective listening skills for better comprehension of academic lectures and English spoken by native speakers
- Focus on appropriate reading strategies for comprehension of various academic texts and authentic materials
- Help improve speaking skills through participation in activities such as role plays, discussions and structured talks/oral presentations
- Impart effective strategies for good writing and demonstrate the same in summarizing, writing well organized essays, record and report useful information
- Provide knowledge of grammatical structures and vocabulary and encourage their appropriate use in speech and writing

**Unit 1**

**Listening:** Identifying the topic, the context and specific pieces of information by listening to short audio texts and answering a series of questions. **Speaking:** Asking and answering general questions on familiar topics such as home, family, work, studies and interests; introducing oneself and others. **Reading:** Skimming to get the main idea of a text; scanning to look for specific pieces of information. **Reading for Writing:** Beginnings and endings of paragraphs - introducing the topic, summarizing the main idea and/or providing a transition to the next paragraph. **Grammar and Vocabulary:** Content words and function words; word forms: verbs, nouns, adjectives and adverbs; nouns: countables and uncountables; singular and plural; basic sentence structures; simple question form - wh-questions; word order in sentences.

### Learning Outcomes

At the end of the module, the learners will be able to

- understand social or transactional dialogues spoken by native speakers of English and identify the context, topic, and pieces of specific information
- ask and answer general questions on familiar topics and introduce oneself/others
- employ suitable strategies for skimming and scanning to get the general idea of a text and locate specific information
- recognize paragraph structure and be able to match beginnings/endings/headings with paragraphs
- form sentences using proper grammatical structures and correct word forms

### Unit 2

**Listening:** Answering a series of questions about main idea and supporting ideas after listening to audio texts. **Speaking:** Discussion in pairs/ small groups on specific topics followed by short structured talks. **Reading:** Identifying sequence of ideas; recognizing verbal techniques that help to link the ideas in a paragraph together. **Writing:** Paragraph writing (specific topics) using suitable cohesive devices; mechanics of writing - punctuation, capital letters. **Grammar and Vocabulary:** Cohesive devices - linkers, sign posts and transition signals; use of articles and zero article; prepositions.

### Learning Outcomes

At the end of the module, the learners will be able to

- comprehend short talks on general topics
- participate in informal discussions and speak clearly on a specific topic using suitable discourse markers
- understand the use of cohesive devices for better reading comprehension
- write well structured paragraphs on specific topics
- identify basic errors of grammar/ usage and make necessary corrections in short texts

### Unit 3

**Listening:** Listening for global comprehension and summarizing what is listened to. **Speaking:** Discussing specific topics in pairs or small groups and reporting what is discussed. **Reading:** Reading a text in detail by making basic inferences - recognizing and interpreting specific context clues; strategies to use text clues for comprehension. **Writing:** Summarizing - identifying main idea/s and rephrasing what is read; avoiding redundancies and repetitions. **Grammar and Vocabulary:** Verbs - tenses; subject-verb agreement; direct and indirect speech, reporting verbs for academic purposes.

### Learning Outcomes

At the end of the module, the learners will be able to

- comprehend short talks and summarize the content with clarity and precision
- participate in informal discussions and report what is discussed
- infer meanings of unfamiliar words using contextual clues
- write summaries based on global comprehension of reading/listening texts
- use correct tense forms, appropriate structures and a range of reporting verbs in speech and writing



#### Unit 4

**Listening:** Making predictions while listening to conversations/ transactional dialogues without video; listening with video. **Speaking:** Role plays for practice of conversational English in academic contexts (formal and informal) - asking for and giving information/directions. **Reading:** Studying the use of graphic elements in texts to convey information, reveal trends/patterns/relationships, communicate processes or display complicated data. **Writing:** Information transfer; describe, compare, contrast, identify significance/trends based on information provided in figures/charts/graphs/tables. **Grammar and Vocabulary:** Quantifying expressions - adjectives and adverbs; comparing and contrasting; degrees of comparison; use of antonyms

#### Learning Outcomes

At the end of the module, the learners will be able to

- infer and predict about content of spoken discourse
- understand verbal and non-verbal features of communication and hold formal/informal conversations
- interpret graphic elements used in academic texts
- produce a coherent paragraph interpreting a figure/graph/chart/table
- use language appropriate for description and interpretation of graphical elements

#### Unit 5

**Listening:** Identifying key terms, understanding concepts and answering a series of relevant questions that test comprehension. **Speaking:** Formal oral presentations on topics from academic contexts - without the use of PPT slides. **Reading:** Reading for comprehension. **Writing:** Writing structured essays on specific topics using suitable claims and evidences. **Grammar and Vocabulary:** Editing short texts - identifying and correcting common errors in grammar and usage (articles, prepositions, tenses, subject verb agreement)

#### Learning Outcomes

At the end of the module, the learners will be able to

- take notes while listening to a talk/lecture and make use of them to answer questions
- make formal oral presentations using effective strategies
- comprehend, discuss and respond to academic texts orally and in writing
- produce a well-organized essay with adequate support and detail
- edit short texts by correcting common errors

#### Text Book

- **English all round: Communication Skills for Undegraduation Learners Vol. I**, Orient BlackSwan Publisers, First Edition 2019.

**(19A52101P) Communicative English I Lab**  
(Common to All Branches of Engineering)

**Course Objectives**

- students will be exposed to a variety of self instructional, learner friendly modes of language learning
- students will cultivate the habit of reading passages from the computer monitor. Thus providing them with the required facility to face computer based competitive exams like GRE, TOEFL, and GMAT etc.
- students will learn better pronunciation through stress, intonation and rhythm
- students will be trained to use language effectively to face interviews, group discussions, public speaking
- students will be initiated into greater use of the computer in resume preparation, report writing, format making etc

**Course Outcomes**

- CO1: Remember and understand the different aspects of the English language proficiency with emphasis on LSRW skills
- CO2: Apply communication skills through various language learning activities
- CO3: Analyze the English speech sounds, stress, rhythm, intonation and syllable division for better listening and speaking comprehension.
- CO4: Evaluate and exhibit acceptable etiquette essential in social and professional settings
- CO5: Create awareness on mother tongue influence and neutralize it in order to improve fluency in spoken English.

**Unit 1**

1. Phonetics for listening comprehension of various accents
2. Reading comprehension
3. Describing objects/places/persons

**Learning Outcomes**

At the end of the module, the learners will be able to

- understand different accents spoken by native speakers of English
- employ suitable strategies for skimming and scanning on monitor to get the general idea of a text and locate specific information
- learn different professional registers and specific vocabulary to describe different persons, places and objects



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B. Tech III-I Sem. (CSE)

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15A99501 SOCIAL VALUES & ETHICS (AUDIT COURSE)  
(Common to all Branches)

UNIT - I

Introduction and Basic Concepts of Society: Family and Society: Concept of family, community, PRIs and other community based organizations and society, growing up in the family – dynamics and impact, Human values, Gender Justice. Channels of Youth Moments for National Building: NSS & NCC: History, philosophy, aims & objectives; Emblems, flags, motios, songs, badge etc.; Organizational structure, roles and responsibilities of various NSS functionaries. Nehru Yuva Kendra (NYK): Activities – Socio Cultural and Sports.

UNIT – II

Activities of NSS, NCC, NYK:

Citizenship: Basic Features Constitution of India, Fundamental Rights and Fundamental Duties, Human Rights, Consumer awareness and the legal rights of the consumer, RTI.

Youth and Crime: Sociological and psychological Factors influencing youth crime, Peer Mentoring in preventing crimes, Awareness about Anti-Ragging, Cyber Crime and its prevention, Juvenile Justice

Social Harmony and National Integration: Indian history and culture, Role of youth in peace-building and conflict resolution, Role of youth in Nation building.

UNIT – III

Environment Issues: Environment conservation, enrichment and Sustainability, Climate change, Waste management, Natural resource management (Rain water harvesting, energy conservation, waste land development, soil conservations and afforestation).

Health, Hygiene & Sanitation: Definition, needs and scope of health education, Food and Nutrition, Safe drinking water, Sanitation, Swachh Bharat Abhyan.

Disaster Management: Introduction to Disaster Management, classification of disasters, Role of youth in Disaster Management. Home Nursing, First Aid.

Civil/ Self Defense: Civil defense services, aims and objectives of civil defense, Need for self defense training – Teakwondo, Judo, karate etc.,

**UNIT - IV**

**Gender Sensitization: Understanding Gender – Gender inequality – Role of Family, Society and State; Challenges – Declining Sex Ratio – Sexual Harassment – Domestic Violence; Gender Equality – Initiatives of Government – Schemes, Law, Initiatives of NGOs – Awareness, Movements;**

**UNIT - V**

**Physical Education : Games & Sports: Health and Recreation – Biological basis of Physical activity – benefits of exercise – Physical, Psychological, Social; Physiology of Muscular Activity, Respiration, Blood Circulation.**

**Yoga: Basics of Yoga – Yoga Protocol, Postures, Asanas, Pranayama: Introduction of Kriyas, Bandhas and Mudras.**

**TEXT BOOKS:**

1. NSS MANUAL
2. SOCIETY AND ENVIRONMENT: A.S.Chauha, Jain Brothers Publications, 6<sup>th</sup> Edition, 2006
3. INDIAN SOCIAL PROBLEM: G.R.Madan, Asian Publisher House
4. INDIAN SOCIAL PROBLEM: Ram Ahuja, Rawat Publications
5. HUMAN SOCIETY: Kingsley Davis, Macmillan
6. SOCIETY: Mac Iver D Page, Macmillan
7. SOCIOLOGY – THEMES AND PERSPECTIVES: Michael Horatambos, Oxford University Press
8. CONSTITUTION OF INDIA: D.D.Basu, Lexis Nexis Butterworth Publishers
9. National Youth Policy 2014 (available on [www.yas.nic.in](http://www.yas.nic.in))
10. TOWARDS A WORLD OF EQUALS: A.Suneetha, Uma Bhugudanda, Duggirala Vasantha, Rama Melkote, Vasudha Nagraj, Asma Rasheed, Gogu Shyamala, Deepa Sreenivas and Susie Tharu
11. LIGHT ON YOGA : B.K.S.Iyengar, Penguin Random House Publishers

[www.un.org](http://www.un.org)

[www.india.gov.in](http://www.india.gov.in)

[www.yas.nic.in](http://www.yas.nic.in)

<http://www.who.int/countries/ind/en/>

<http://www.ndma.gov.in>

<http://evush.gov.in/event/common-yoga-protocol-2016-0>



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**B. Tech III-II Sem. (C.E)**

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**15A52602      ADVANCED ENGLISH LANGUAGE COMMUNICATION SKILLS  
(AELCS) LAB (Audit Course)**

**1. INTRODUCTION**

With increased globalization and rapidly changing industry expectations, employers are looking for the wide cluster of skills to cater to the changing demand. The introduction of the Advanced Communication Skills Lab is considered essential at 3<sup>rd</sup> year level. At this stage, the students need to prepare themselves for their careers which may require them to listen to, read, speak and write in English both for their professional and interpersonal communication in the globalised context.

The proposed course should be a laboratory course to enable students to use 'good' English and perform the following:

- Gathering ideas and information and to organise ideas relevantly and coherently.
- Engaging in debates.
- Participating in group discussions.
- Facing interviews.
- Writing project/research reports/technical reports.
- Making oral presentations.
- Taking part in social and professional communication.

**1. OBJECTIVES:**

This Lab focuses on using multi-media instruction for language development to meet the following targets:

- To improve the students' fluency in English, through a well-developed vocabulary and enable them to listen to English spoken at normal conversational speed by educated English speakers and respond appropriately in different socio-cultural and professional contexts.
- Further, they would be required to communicate their ideas relevantly and coherently in writing.
- To prepare all the students for their placements.

### **3. SYLLABUS:**

The following course content to conduct the activities is prescribed for the Advanced English Communication Skills (AECS) Lab:

#### **UNIT-I: COMMUNICATION SKILLS**

1. Reading Comprehension
2. Listening comprehension
3. Vocabulary Development
4. Common Errors

#### **UNIT-II: WRITING SKILLS**

1. Report writing
2. Resume Preparation
3. E-mail Writing

#### **UNIT-III: PRESENTATION SKILLS**

1. Oral presentation
2. Power point presentation
3. Poster presentation

#### **UNIT-IV: GETTING READY FOR JOB**

1. Debates
2. Group discussions
3. Job Interviews

#### **UNIT-V: INTERPERSONAL SKILLS**

1. Time Management
2. Problem Solving & Decision Making
3. Etiquettes

### **4. LEARNING OUTCOMES:**

- Accomplishment of sound vocabulary and its proper use contextually
- Flair in Writing and felicity in written expression.
- Enhanced job prospects.
- Effective Speaking Abilities
- 

### **5. MINIMUM REQUIREMENT:**

The Advanced English Communication Skills (AECS) Laboratory shall have the following infra-structural facilities to accommodate at least 60 students in the lab:

- Spacious room with appropriate acoustics.
- Round Tables with movable chairs
- Audio-visual aids
- LCD Projector
- Public Address system

  
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- P – IV Processor, Hard Disk – 80 GB, RAM–512 MB Minimum, Speed – 2.8 GHZ
- T. V, a digital stereo & Camcorder
- Headphones of High quality

#### **6. SUGGESTED SOFTWARE:**

The software consisting of the prescribed topics elaborated above should be procured and G

1. **Walden Infotech: Advanced English Communication Skills Lab**
2. **K-VAN SOLUTIONS-Advanced English Language Communication Skills lab**
3. **DELTA's key to the Next Generation TOEFL Test: Advanced Skills Practice.**
4. **TOEFL & GRE( KAPLAN, AARCO & BARRONS, USA, Cracking GRE by CLIFFS)**
5. **Train2success.com**

#### **7. BOOKS RECOMMENDED:**

1. **Objective English for Competitive Exams**, Hari Mohana Prasad, 4<sup>th</sup> edition, Tata Mc Graw Hill.
2. **Technical Communication** by Meenakshi Raman & Sangeeta Sharma, O U Press 3<sup>rd</sup> Edn. 2015.
3. **Essay Writing for Exams**, Audrone Raskauskiene, Irena Ragaisience & Ramute Zemaitience, OUP, 2016
4. **Soft Skills for Everyone**, Butterfield Jeff, Cengage Publications, 2011.
5. **Management Shapers Series** by Universities Press (India) Pvt Ltd., Himayatnagar, Hyderabad 2008.
6. **Campus to Corporate**, Gangadhar Joshi, Sage Publications, 2015
7. **Communicative English**, E Suresh Kumar & P.Sreehari, Orient Blackswan, 2009.
8. **English for Success in Competitive Exams**, Philip Sunil Solomon OUP, 2015

  
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(17D20301) RESEARCH METHODOLOGY  
(Elective V-OPEN ELECTIVE )

UNIT I

Meaning of Research – Objectives of Research – Types of Research – Research Approaches – Guidelines for Selecting and Defining a Research Problem – research Design – Concepts related to Research Design – Basic Principles of Experimental Design.

UNIT II

Sampling Design – steps in Sampling Design –Characteristics of a Good Sample Design – Random Sampling Design.  
Measurement and Scaling Techniques-Errors in Measurement – Tests of Sound Measurement – Scaling and Scale Construction Techniques – Time Series Analysis – Interpolation and Extrapolation.  
Data Collection Methods – Primary Data – Secondary data – Questionnaire Survey and Interviews.

UNIT III

Correlation and Regression Analysis – Method of Least Squares – Regression vs Correlation – Correlation vs Determination – Types of Correlations and Their Applications

UNIT IV


Statistical Inference: Tests of Hypothesis – Parametric vs Non-parametric Tests – Hypothesis Testing Procedure – Sampling Theory – Sampling Distribution – Chi-square Test – Analysis of variance and Co-variance – Multi-variate Analysis.

UNIT V

Report Writing and Professional Ethics: Interpretation of Data – Report Writing – Layout of a Research Paper – Techniques of Interpretation- Making Scientific Presentations in Conferences and Seminars – Professional Ethics in Research.

Text Books:

- Research Methodology:Methods And Techniques – C.R.Kothari, 2<sup>nd</sup> Edition,New Age International Publishers.  
Research Methodology: A Step By Step Guide For Beginners- Ranjit Kumar, Sage Publications (Available As Pdf On Internet)  
Research Methodology And Statistical Tools – P.Narayana Reddy And G.V.R.K.Acharyulu, 1<sup>st</sup> Edition,Excel Books,New Delhi.

  
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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR  
M.Tech III semester (SE)

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(17D20302) HUMAN VALUES AND PROFESSIONAL ETHICS  
(Elective V-OPEN ELECTIVE )

**Unit I:**

**HUMAN VALUES:** Morals, Values and Ethics-Integrity-Work Ethic-Service learning – Civic Virtue – Respect for others – Living Peacefully – Caring – Sharing – Honesty - Courage- Co Operation – Commitment – Empathy –Self Confidence Character – Spirituality.

**Unit II:**

**ENGINEERING ETHICS:** Senses of Engineering Ethics- Variety of moral issues – Types of inquiry – Moral dilemmas – Moral autonomy –Kohlberg's theory- Gilligan's theory- Consensus and controversy – Models of professional roles- Theories about right action- Self interest - Customs and religion –Uses of Ethical theories – Valuing time –Co operation – Commitment.

**Unit III :**

**ENGINEERING AS SOCIAL EXPERIMENTATION:** Engineering As Social Experimentation – Framing the problem – Determining the facts – Codes of Ethics – Clarifying Concepts – Application issues – Common Ground - General Principles – Utilitarian thinking respect for persons.

**UNIT IV:**

**ENGINEERS RESPONSIBILITY FOR SAFETY AND RISK:** Safety and risk – Assessment of safety and risk – Risk benefit analysis and reducing riskSafety and the Engineer- Designing for the safety- Intellectual Property rights(IPR).

**UNIT V:**

**GLOBAL ISSUES:** Globalization – Cross culture issues- Environmental Ethics – Computer Ethics – Computers as the instrument of Unethical behavior – Computers as the object of Unethical acts – Autonomous Computers- Computer codes of Ethics – Weapons Development - Ethics .

**Text Books :**

1. "Engineering Ethics includes Human Values" by M.Govindarajan, S.Natarajan and V.S.SenthilKumar-PHI Learning Pvt. Ltd-2009.
2. "Engineering Ethics" by Harris, Pritchard and Rabins, CENGAGE Learning, India Edition, 2009.
3. "Ethics in Engineering" by Mike W. Martin and Roland Schinzinger – Tata McGrawHill– 2003.
4. "Professional Ethics and Morals" by Prof.A.R.Aryasri, Dharanikota Suyodhana-Maruthi Publications.
5. "Professional Ethics and Human Values" by A.Alavudeen, R.Kalil Rahman and M.Jayakumaran , Laxmi Publications.

  
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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR

B. Tech IV-I Sem. (C.E)

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15A01703 ENVIRONMENTAL ENGINEERING

**Course Objective:** This subject provides the knowledge of water sources, water treatment, design of distribution system, waste water treatment, and safe disposal methods. The topics of characteristics of waste water, sludge digestion are also included.

**UNIT - I**

**INTRODUCTION:** Importance and Necessity of Protected Water Supply systems, Objectives of Protected water supply system, Flow chart of public water supply system, Role of Environmental Engineer.

**WATER DEMAND AND QUANTITY STUDIES :** Estimation of water demand for a town or city, Types of water demands, Per capita Demand, Factors affecting the Per Capita Demand, Variations in the Demand, Design Period, Factors affecting the Design period, Population Studies, Population Forecasting Studies.

**QUALITY AND ANALYSIS OF WATER:** Characteristics of water – Physical, Chemical and Biological. Analysis of Water – Physical, Chemical and Biological. Impurities in water, Water borne diseases. Drinking water quality standards.

**UNIT - II**

**WATER TREATMENT:** Layout and general outline of water treatment units – sedimentation – principles – design factors – coagulation-flocculation clarifier design – coagulants – feeding arrangements. Filtration and Chlorination: Filtration – theory – working of slow and rapid gravity filters – multimedia filters – design of filters – troubles in operation comparison of filters – disinfection – theory of chlorination, chlorine demand, other disinfection practices- Miscellaneous treatment methods

**WATER DISTRIBUTION :** Distribution systems – Requirements, Layout of Water distribution systems - Design procedures- Hardy Cross and equivalent pipe methods service reservoirs – joints, valves such as sluice valves, air valves, scour valves and check valves water meters – laying and testing of pipe lines – pump house, waste detection and prevention.

**UNIT - III**

**INTRODUCTION TO SANITATION :** systems of sanitation – relative merits & demerits – collection and conveyance of waste water – sewerage – classification of sewerage



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systems- Estimation of sewage flow and storm water drainage – fluctuations – types of sewers – Hydraulics of sewers and storm drains– design of sewers – materials for sewers- appurtenances in sewerage – cleaning and ventilation of sewers .

**WASTE WATER COLLECTION AND CHARACTERISTICS :** Conservancy and water carriage systems – sewage and storm water estimation – time of concentration – storm water overflows combined flow – characteristics of sewage – cycles of decay – decomposition of sewage, examination of sewage – B.O.D. – C.O.D. equations.

**UNIT IV**

**WASTE WATER TREATMENT:** Layout and general out line of various units in a waste water treatment plant – primary treatment: design of screens – grit chambers – skimming tanks – sedimentation tanks – principles of design – biological treatment – trickling filters – standard and high rate – Construction and design of Oxidation ponds.

**SLUDGE TREATMENT:** Sludge digestion – factors effecting – design of Digestion tank – Sludge disposal by drying – septic tanks and Imhoff Tanks, working principles and design – soak pits.

**UNIT – V**

**SOLID WASTE MANAGEMENT:** Characteristics, generation, collection and transportation of solid wastes, engineered systems for solid waste management (reuse/ recycle, energy recovery, treatment and disposal).

**AIR POLLUTION:** Types of pollutants, their sources and impacts, air pollution meteorology, air pollution control, air quality standards and limits.

**NOISE POLLUTION:** Impacts of noise, permissible limits of noise pollution, measurement of noise and control of noise pollution.

**TEXT BOOKS:**

1. Water Supply And Sanitary Engineering By G.S. Birdi, Dhanpat Rai & Sons Publishers.
2. Water Supply Engineering, Vol. 1, Waste Water Engineering, Vol. II, B.C.Punmia, Ashok Jain & Arun Jain, Laxmi Publications Pvt.Ltd, New Delhi
3. Environmental Engineering By Peavy, TMH Publishers.



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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR

B. Tech IV-I Sem. (C.E)

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15A01712 ENVIRONMENTAL ENGINEERING LABORATORY

**Course Objective:**


The laboratory provides knowledge of estimating various parameters like PH, Chlorides, Sulphates, Nitrates in water. For effective water treatment, the determination of optimum dosage of coagulant and chloride demand are also included. The estimation status of Industrial effluents will also be taught in the laboratory by estimating BOD and COD of effluent.

**LIST OF EXPERIMENTS**

1. Determination of pH and Turbidity
2. Determination of Conductivity and Total dissolved solids.
3. Determination of Alkalinity/Acidity.
4. Determination of Chlorides.
5. Determination and Estimation of total solids, organic solids and inorganic solids.
6. Determination of iron.
7. Determination of Dissolved Oxygen.
8. Determination of Nitrogen.
9. Determination of total Phosphorous.
10. Determination of B.O.D
11. Determination of C.O.D
12. Determination of Optimum coagulant dose.
13. Determination of Chlorine demand.
14. Presumptive coliform test.

**NOTE:** At least 8 of the above experiments are to be conducted.

  
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**R15**

**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**

B. Tech III-II Sem. (CSE) 

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**15A05607 LINUX ENVIRONMENT SYSTEM  
(CBCS-I)**

**Course Objectives:**

The student should be made to:

- Understand the Multuser, Multiprocessing, Multitasking, and multiprogramming environment.
- Learn the various flavors and installation types of Linux operating system.
- Experiences the installation and configuration status of Linux system.
- Learn the file system and various commands of Linux environment system.

**Course Outcomes:**

- Able to describe and use the LINUX operating system.
- Able to describe and use the fundamental LINUX system tools and utilities.
- Able to describe and write shell scripts in order to perform basic shell programming.
- Able to describe and understand the LINUX file system.

**UNIT-I**

**INTRODUCTION TO LINUX OPERATING SYSTEM:** Introduction and Types of Operating Systems, Linux Operating System, Features, Architecture Of Linux OS and Shell Interface, Linux System Calls, Linux Shared Memory Management, Device and Disk Management in Linux, Swap space and its management. File System and Directory Structure in Linux. Multi-Processing, load sharing and Multi-Threading in Linux, Types of Users in Linux, Capabilities of Super Users and equivalents.

**UNIT-II**

**INSTALLING LINUX AS A SERVER :** Linux and Linux Distributions ; Major differences between various Operating Systems (on the basis of: Single Users vs Multusers vs Network Users; Separation of the GUI and the Kernel; Domains; Active Directory).

**INSTALLING LINUX IN A SERVER CONFIGUARTION :** Before Installation; Hardware; Server Design ;Dual-Booting Issues; Modes of Installation; Installing Fedora Linux; Creating a Boot Disk; Starting the Installation; GNOME AND KDE



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: The History of X Windows; The Downside; Enter GNOME; About GNOME ; Starting X Windows and GNOME; GNOME Basics; The GNOME Configuration Tool.

**UNIT-III**

**INSTALLING SOFTWARE** : The Fedora Package Manager; Installing a New Package using dpkg and RPM; Querying a Package; Uninstalling a Package using dpkg and RPM; Compiling Software; Getting and Unpacking the Package; Looking for Documentation; Configuring the Package; Compiling Your Package; Installing the Package, Driver Support for various devices in linux.

**MANAGING USERS**: Home Directories ;Passwords; Shells; Stratup Scripts; Mail; User Databases; The / etc /passwd File; The / etc / shadow File; The / etc /group File; User Management Tools; Command-Line User Management; User LinuxConf to Manipulate Users and Groups; SetUID and SetGID Programs.

**UNIT IV**

**THE COMMAND LINE** : An Introduction to BASH, KORN, C, A Shell etc. ; BASH commands: Job Control; Environment Variables; Pipes; Redirection; Command-Line Shortcuts; Documentation Tools; The man Command; the text info System; File Listings; Owner ships and permissions; Listing Files; File and Directory Types; Change Ownership; Change Group; Change Mode ; File Management and Manipulation; Process Manipulation; Miscellaneous Tools; Various Editors Available like: Vi and its modes, Pico, Joe and emacs, . Su Command.

**BOOTING AND SHUTTING DOWN**: LILO and GRUB; Configuring LILO; Additional LILO options; Adding a New Kernel to Boot ; Running LILO; The Steps of Booting; Enabling and disabling Services.

**UNIT-V**

**FILE SYSTEMS**: The Makeup File Systems; Managing File Systems; Adding and Partitioning a Disk; Network File Systems; Quota Management;

**CORE SYSTEM SERVICES**: The init Service; The inetd and xinetd Processes; The syslogd Daemon; The cron Program.

**PRINTING** : The Basic of lpd; Installing LPRng; Configuring /etc/printcap; The /ETC/lpd.perms File; Clients of lpd, Interfacing Printer through Operating System.

**Text Books:**


1. Linux Administration : A Beginner's Guide by Steve Shah , Wale Soylnka, ISBN 0072262591 (0-07-226259-1), McGraw-Hill Education.
2. Unix Shell Programming, Yashavant P. Kanetkar, BPB Publications, 2003.
3. UNIX Concepts and Applications by Sumitabha Das Tata McGraw-Hill, 2006.



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**(An Integrated Campus for Engineering & MBA)**  
**Approved by AICTE, New Delhi & Affiliated to JNTUA, Ananthapuramu, AP.**  
**Near C. Gollapalli, Tirupati – 517 505, Andhra Pradesh**

1.3.1 Institution Integrates cross cutting issues relevant to professional Ethics, Gender, Human values, Environment and Sustainability (2018-19)

Cross cutting issue	Regulation	Course code	Name of the Course	Year of study	Academic year
Human values and Professional Ethics	R15	15A52102	ELCS LAB	I.I ( Common to All )	2018-19
	R15	15A52201	EPC	I.II ( Common to All )	2018-19
	R15	15A03505	Entrepreneurship	III.I ( ME )	2018-19
	R15	15A99501	Social Values and Ethics	III.I ( ME, ECE,CSE )	2018-19
	R15	15A52602	AELCS Lab	III.II ( Common to All )	2018-19
	R17	17D20301	Research Methodology	M.Tech II-I (ES&DECS)	2018-19
	R17	17D20302	Human values and Professional Ethics	M.Tech(II-I SE,CSE)	2018-19
Environment and Sustainability	R15	15A01101	Environment Studies	I.I ( ME, ECE )	2018-19
	R15	15A01101	Environment Studies	I.II ( CIVIL,EEE, CSE)	2018-19
	R15	15A01607	Disaster Management and mitigation	III.II (CIVIL)	2018-19
	R15	15A05607	Linux Environment System	III.II ( CSE )	2018-19
	R15	15A01703	Environmental Engineering	IV.I (CIVIL)	2018-19
	R15	15A01712	Environmental Engineering Lab	IV.I (CIVIL)	2018-19

  
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ANANTAPUR ANANTHAPURAMU**

**I B.Tech. I - Semester**

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**(15A52102) ENGLISH LANGUAGE COMMUNICATION SKILLS  
(ELCS) LAB (Common to All Branches)**

The Language Lab focuses on the production and practice of sounds of language and familiarizes the students with the use of English in everyday situations and contexts.

**Objectives:**

- To enable students to learn better pronunciation through stress on word accent, intonation, and rhythm.
- To help the second language learners to acquire fluency in spoken English and neutralize mother tongue influence
- To train students to use language appropriately for interviews, group discussion and public speaking

**UNIT - I**

1. Phonetics -importance
2. Introduction to Sounds of Speech
3. Vowels and consonants sounds
4. Phonetic Transcription

**UNIT - II**

5. Word Stress
6. Syllabification
7. Rules of word stress
8. Intonation

**UNIT - III**

9. Situational Dialogues
10. Role Plays
11. JAM
12. Describing people/objects/places

**UNIT - IV**

13. Debates
14. Group Discussions
15. Interview skills

**UNIT - V**

16. Video speech writing
17. Book reviews -oral and written

  
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### Minimum Requirements for ELCS Lab:

The English Language Lab shall have two parts:

1. Computer Assisted Language Learning (CALL) Lab: The Computer aided Language Lab for 60 students with 60 systems, one master console, LAN facility and English language software for self-study by learners.
2. The Communication Skills Lab with movable chairs and audio-visual aids with a P.A. system, Projector, a digital stereo-audio & video system and camcorder etc.  
System Requirement (Hardware component):  
Computer network with LAN with minimum 60 multimedia systems with the following specifications:
  - i) P – IV Processor
    - a) Speed – 2.8 GHZ
    - b) RAM – 512 MB Minimum
    - c) Hard Disk – 80 GB
  - ii) Headphones of High quality

### Suggested Software:

1. Clarity Pronunciation Power – Part I (Sky Pronunciation)
2. Clarity Pronunciation Power – part II
3. K-Van Advanced Communication Skills
4. Walden InfoTech Software.

### References:

1. A Textbook of English Phonetics for Indian Students 2<sup>nd</sup> Ed T. Balasubramanian. (Macmillan),2012.
2. A Course in Phonetics and Spoken English, Dhamija Sethi, Prentice-Hall of India Pvt.Ltd
3. Speaking English Effectively, 2<sup>nd</sup> Edition Krishna Mohan & NP Singh, 2011. (Mcmillan).
4. A Hand book for English Laboratories, E.Suresh Kumar, P.Sreehari, Foundation Books,2011
5. Spring Board Succes, Sharada Kouhik, Bindu Bajwa, Orient Blackswan, Hyderabad, 2010.

### Outcomes:

- Become active participants in the learning process and acquire proficiency in spoken English.
- Speak with clarity and confidence thereby enhance employability skills.



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B.Tech. I - II Sem. (CSE)

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(15A52201) ENGLISH FOR PROFESSIONAL COMMUNICATION

**1. INTRODUCTION:**

English is a global language and has international appeal and application. It is widely used in a variety of contexts and for varied purposes. The students would find it useful both for social and professional development. There is every need to help the students acquire skills useful to them in their career as well as workplace. They need to write a variety of documents and letters now extending into professional domain that cuts across business and research also. The syllabus has been designed to enhance communication skills of the students of engineering and pharmacy. The prescribed book serves the purpose of preparing them for everyday communication and to face the global competitions in future.

The text prescribed for detailed study focuses on LSRW skills and vocabulary development. The teachers should encourage the students to use the target language. The classes should be interactive and learner-centered. They should be encouraged to participate in the classroom activities keenly.

In addition to the exercises from the text done in the class, the teacher can bring variety by using authentic materials such as newspaper articles, advertisements, promotional material etc.

**2. OBJECTIVES:**

1. To develop confidence in the students to use English in everyday situations.
2. To enable the students to read different discourses so that they appreciate English for science and technologies.
3. To improve familiarity with a variety of technical writings.
4. To enable the students to acquire structure and written expressions required for their profession.
5. To develop the listening skills of the students.

**3. SYLLABUS:**

**UNIT -I**

**Topics:** Group discussion, cause and effect, events and perspectives, debate, if conditional, essay writing.

**Text:** LESSONS FROM THE PAST from *MINDSCAPES*

Importance of History - Differing Perspectives - Modern Corporatism - Lessons From The Past

**UNIT-II**

**Topics:** Idioms, essay writing, power point presentation, modals, listening and rewriting, preparing summary, debate, group discussion, role play, writing a book review, conversation

**Text:** 'ENERGY' from *MINDSCAPES*

Renewable and Non-Renewable Sources - Alternative Sources -Conservation -Nuclear Energy

**UNIT-III**

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**Topics:** Vocabulary, impromptu speech, creative writing, direct and indirect speech, fixed expressions, developing creative writing skills, accents, presentation skills, making posters, report writing

**Text:** 'ENGINEERING ETHICS' from *MINDSCAPES*

Challenger Disaster - Biotechnology - Genetic Engineering - Protection From Natural Calamities

#### UNIT-IV

**Topics:** Vocabulary, Conversation, Collocation, Group discussion, Note-making, Clauses, Interpreting charts and tables , Report writing.

**Text:** 'TRAVEL AND TOURISM' from *MINDSCAPES*

Advantages and Disadvantages of Travel - Tourism - Atithi Devo Bhava - Tourism in India

#### UNIT-V

**Topics:** Vocabulary, phrasal verbs, writing a profile, connectives, discourse markers, problem-solving, telephone skills, application letters, curriculum vitae, interviews (telephone and personal)

**Text:** 'GETTING JOB-READY' from *MINDSCAPES*

SWOT Analysis - Companies And Ways Of Powering Growth - Preparing For Interviews

#### Prescribed Text

*MINDSCAPES*: English for Technologists and Engineers, Orient Blackswan, 2014.

#### REFERENCES:

1. **Effective Tech Communication**, Rizvi, Tata McGraw-Hill Education, 2007.
2. **Technical Communication**, Meenakshi Raman, Oxford University Press.
3. **English Conversations Prcatice**, Grant Taylor, Tata Mc GrawHill publications,2013.
4. **Practical English Grammar**. Thomson and Martinet, OUP, 2010.

#### Expected Outcomes:

At the end of the course, students would be expected to:

1. Have acquired ability to participate effectively in group discussions.
2. Have developed ability in writing in various contexts.
3. Have acquired a proper level of competence for employability.

  
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**B. Tech III-I Sem. (ME)**

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**15A03505 ENTREPRENEURSHIP  
(MOOCS-I)**

**UNIT 1:** Introduction to Entrepreneurship Definition Types of Entrepreneur, Entrepreneurial Traits, Entrepreneur vs. Manager, Entrepreneur vs Intrapreneur. The Entrepreneurial decision process. Ethics and Social responsibility of Entrepreneurs. Opportunities for Entrepreneurs in India and abroad.

Creating and Starting the Venture, Sources of new Ideas, Methods of generating ideas, creative problem solving, product planning and development process.

**UNIT II:** The Business Plan Nature and scope of Business plan, Writing Business Plan, Evaluating Business plans, Using and implementing business plans. Marketing plan, financial plan and the organizational plan, Launching formalities.

**UNIT III:** Financing and Managing the new venture, Sources of capital, venture capital , angel investment, Record keeping, recruitment, motivating and leading teams, financial controls. Marketing and sales controls. E-commerce and Entrepreneurship, Internet advertising.

**UNIT IV:** New venture Expansion Strategies and Issues, Features and evaluation of joint ventures, acquisitions, merges, franchising. Public issues, rights issues, bonus issues and stock splits.Choosing location and layout, Issues related to Selection of layout.

**UNIT V:** Production and Marketing Management Thrust of production management, Selection of production Techniques, plant utilization and maintenance, Designing the work place, Inventory control, material handling and quality control.Marketing functions, market segmentation, market research and channels of distribution, Sales promotion and product pricing. Global aspects of Enterprenership.

**Text Books:**

1. Entrepreneurship, Robert Hisrich, & Michael Peters, TMH, 5th Edition
2. Entrepreneurship, Dollinger, Pearson, 4/e 2004.

**REFERENCES:**

1. Dynamics of Entrepreneurial Development and management, Vasant Desai, Himalaya Publishing House, 2004.
2. Harvard Business Review on Entrepreneurship. HBR Paper Back, 1999.
3. Entrepreneurial Management, . Robert J.Calvin:, TMH, 2004.

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<b>B. Tech III-I Sem. (CSE)</b>	<b>L T P C</b>
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**15A99501 SOCIAL VALUES & ETHICS (AUDIT COURSE)**  
*(Common to all Branches)*

**UNIT - I**

**Introduction and Basic Concepts of Society: Family and Society:** Concept of family, community, PRIs and other community based organizations and society, growing up in the family – dynamics and impact, Human values, Gender Justice.

**Channels of Youth Moments for National Building: NSS & NCC:** History, philosophy, aims & objectives; Emblems, flags, mottos, songs, badge etc.; Organizational structure, roles and responsibilities of various NSS functionaries. **Nehru Yuva Kendra (NYK):** Activities – Socio Cultural and Sports.

**UNIT – II**

Activities of NSS, NCC, NYK:

**Citizenship:** Basic Features Constitution of India, Fundamental Rights and Fundamental Duties, Human Rights, Consumer awareness and the legal rights of the consumer, RTI.

**Youth and Crime:** Sociological and psychological Factors influencing youth crime, Peer Mentoring in preventing crimes, Awareness about Anti-Ragging, Cyber Crime and its prevention, Juvenile Justice

**Social Harmony and National Integration:** Indian history and culture, Role of youth in peace-building and conflict resolution, Role of youth in Nation building.

**UNIT – III**

**Environment Issues:** Environment conservation, enrichment and Sustainability, Climate change, Waste management, Natural resource management (Rain water harvesting, energy conservation, waste land development, soil conservations and afforestation).

**Health, Hygiene & Sanitation:** Definition, needs and scope of health education, Food and Nutrition, Safe drinking water, Sanitation, Swachh Bharat Abhiyan.

**Disaster Management:** Introduction to Disaster Management, classification of disasters, Role of youth in Disaster Management. Home Nursing, First Aid.

**Civil/ Self Defense:** Civil defense services, aims and objectives of civil defense, Need for self defense training – Teakwondo, Judo, karate etc.,



**UNIT – IV**

**Gender Sensitization:** Understanding Gender – Gender inequality – Role of Family, Society and State; Challenges – Declining Sex Ratio – Sexual Harassment – Domestic Violence; Gender Equality – Initiatives of Government – Schemes, Law; Initiatives of NGOs – Awareness, Movements;

**UNIT - V**

**Physical Education :** Games & Sports: Health and Recreation – Biological basis of Physical activity – benefits of exercise – Physical, Psychological, Social; Physiology of Muscular Activity, Respiration, Blood Circulation.

**Yoga:** Basics of Yoga – Yoga Protocol, Postures, Asanas, Pranayama: Introduction of Kriyas, Bandhas and Mudras.

**TEXT BOOKS:**

1. NSS MANUAL
2. SOCIETY AND ENVIRONMENT: A.S.Chauha, Jain Brothers Publications, 6<sup>th</sup> Edition, 2006
3. INDIAN SOCIAL PROBLEM: G.R.Madan, Asian Publisher House
4. INDIAN SOCIAL PROBLEM: Ram Ahuja, Rawat Publications
5. HUMAN SOCIETY: Kingsley Davis, Macmillan
6. SOCIETY: Mac Iver D Page, Macmillan
7. SOCIOLOGY – THEMES AND PERSPECTIVES: Michael Honalambos, Oxford University Press
8. CONSTITUTION OF INDIA: D.D.Basu, Lexis Nexis Butterworth Publishers
9. National Youth Policy 2014 (available on [www.yas.nic.in](http://www.yas.nic.in))
10. TOWARDS A WORLD OF EQUALS: A.Suneetha, Uma Bhrugudanda, Duggirala Vasantha, Rama Melkote, Vasudha Nagraj, Asma Rasheed, Gogu Shyamala, Deepa Streenivas and Susie Tharu
11. LIGHT ON YOGA : B.K.S.Iyengar, Penguin Random House Publishers

[www.un.org](http://www.un.org)

[www.india.gov.in](http://www.india.gov.in)

[www.yas.nic.in](http://www.yas.nic.in)

<http://www.who.int/countries/ind/en/>

<http://www.ndma.gov.in>

<http://ayush.gov.in/event/common-yoga-protocol-2016-0>

  
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**B. Tech III-II Sem. (CSE)**

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**15A52602      ADVANCED ENGLISH LANGUAGE COMMUNICATION  
SKILLS (AELCS) LAB (Audit Course)**

**1. Introduction**

With increased globalization and rapidly changing industry expectations, employers are looking for the wide cluster of skills to cater to the changing demand. The introduction of the Advanced Communication Skills Lab is considered essential at 3<sup>rd</sup> year level. At this stage, the students need to prepare themselves for their careers which may require them to listen to, read, speak and write in English both for their professional and interpersonal communication in the globalised context.

The proposed course should be a laboratory course to enable students to use 'good' English and perform the following:

- Gathering ideas and information and to organise ideas relevantly and coherently.
- Engaging in debates.
- Participating in group discussions.
- Facing interviews.
- Writing project/research reports/technical reports.
- Making oral presentations.
- Taking part in social and professional communication.

**2 OBJECTIVES:**

This Lab focuses on using multi-media instruction for language development to meet the following targets:

- To improve the students' fluency in English, through a well-developed vocabulary and enable them to listen to English spoken at normal conversational speed by educated English speakers and respond appropriately in different socio-cultural and professional contexts.
- Further, they would be required to communicate their ideas relevantly and coherently in writing.
- To prepare all the students for their placements.

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### **3. SYLLABUS:**

The following course content to conduct the activities is prescribed for the Advanced English Communication Skills (AECS) Lab:

#### **UNIT-I: COMMUNICATION SKILLS**

1. Reading Comprehension
2. Listening comprehension
3. Vocabulary Development
4. Common Errors

#### **UNIT-II: WRITING SKILLS**

1. Report writing
2. Resume Preparation
3. E-mail Writing

#### **UNIT-III: PRESENTATION SKILLS**

1. Oral presentation
2. Power point presentation
3. Poster presentation

#### **UNIT-IV: GETTING READY FOR JOB**

1. Debates
2. Group discussions
3. Job Interviews

#### **UNIT-V: INTERPERSONAL SKILLS**

1. Time Management
2. Problem Solving & Decision Making
3. Etiquettes

### **4. LEARNING OUTCOMES:**

- Accomplishment of sound vocabulary and its proper use contextually
- Flair in Writing and felicity in written expression.
- Enhanced job prospects.
- Effective Speaking Abilities

  
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## **5. MINIMUM REQUIREMENT:**

The Advanced English Communication Skills (AECS) Laboratory shall have the following infra-structural facilities to accommodate at least 60 students in the lab:

- Spacious room with appropriate acoustics.
- Round Tables with movable chairs
- Audio-visual aids
- LCD Projector
- Public Address system
- P – IV Processor, Hard Disk – 80 GB, RAM–512 MB Minimum, Speed – 2.8 GHZ
- T. V, a digital stereo & Camcorder
- Headphones of High quality

## **6. SUGGESTED SOFTWARE:**

The software consisting of the prescribed topics elaborated above should be procured and G

1. **Walden Infotech: Advanced English Communication Skills Lab**
2. **K-VAN SOLUTIONS-Advanced English Language Communication Skills lab**
3. **DELTA's key to the Next Generation TOEFL Test: Advanced Skills Practice.**
4. **TOEFL & GRE( KAPLAN, AARCO & BARRONS, USA, Cracking GRE by CLIFFS)**
5. **Train2success.com**

## **7. BOOKS RECOMMENDED:**

1. **Objective English for Competitive Exams**, Hari Mohana Prasad, 4<sup>th</sup> edition, Tata Mc Graw Hill.
2. **Technical Communication** by Meenakshi Raman & Sangeeta Sharma, O U Press 3<sup>rd</sup> Edn. 2015.
3. **Essay Writing for Exams**, Audrone Raskauskiene, Irena Ragaisiene & Ramute Zemaitiene, OUP, 2016
4. **Soft Skills for Everyone**, Butterfield Jeff, Cengage Publications, 2011.
5. **Management Shapers Series** by Universities Press (India) Pvt Ltd., Himayatnagar, Hyderabad 2008.
6. **Campus to Corporate**, Gangadhar Joshi, Sage Publications, 2015



7. **Communicative English**, E Suresh Kumar & P.Sreehari, Orient Blackswan, 2009.
8. **English for Success in Competitive Exams**, Philip Sunil Solomon OUP, 2015

  
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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR  
M.Tech III semester (ES)

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**(17D20301) RESEARCH METHODOLOGY**  
(Elective V-OPEN ELECTIVE )

UNIT I

Meaning of Research – Objectives of Research – Types of Research – Research Approaches – Guidelines for Selecting and Defining a Research Problem – research Design – Concepts related to Research Design – Basic Principles of Experimental Design.

UNIT II

Sampling Design – steps in Sampling Design –Characteristics of a Good Sample Design – Random Sampling Design.  
Measurement and Scaling Techniques-Errors in Measurement – Tests of Sound Measurement – Scaling and Scale Construction Techniques – Time Series Analysis – Interpolation and Extrapolation.  
Data Collection Methods – Primary Data – Secondary data – Questionnaire Survey and Interviews.

UNIT III

Correlation and Regression Analysis – Method of Least Squares – Regression vs Correlation – Correlation vs Determination – Types of Correlations and Their Applications

UNIT IV

Statistical Inference: Tests of Hypothesis – Parametric vs Non-parametric Tests – Hypothesis Testing Procedure – Sampling Theory – Sampling Distribution – Chi-square Test – Analysis of variance and Co-variance – Multi-variate Analysis.

UNIT V

Report Writing and Professional Ethics: Interpretation of Data – Report Writing – Layout of a Research Paper – Techniques of Interpretation- Making Scientific Presentations in Conferences and Seminars – Professional Ethics in Research.

Text Books:

Research Methodology:Methods And Techniques – C.R.Kothari, 2<sup>nd</sup> Edition,New Age International Publishers.  
Research Methodology: A Step By Step Guide For Beginners- Ranjit Kumar, Sage Publications (Available As Pdf On Internet)  
Research Methodology And Statistical Tools – P.Narayana Reddy And G.V.R.K.Acharyulu, 1<sup>st</sup> Edition,Excel Books,New Delhi.

  
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**M.Tech III semester (SE)**

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**(17D20302) HUMAN VALUES AND PROFESSIONAL ETHICS**  
**(Elective V-OPEN ELECTIVE )**

**Unit I:**

**HUMAN VALUES:** Morals, Values and Ethics-Integrity-Work Ethic-Service learning – Civic Virtue – Respect for others – Living Peacefully – Caring – Sharing – Honesty - Courage- Co Operation – Commitment – Empathy –Self Confidence Character – Spirituality.

**Unit II:**

**ENGINEERING ETHICS:** Senses of Engineering Ethics- Variety of moral issues – Types of inquiry – Moral dilemmas – Moral autonomy –Kohlberg"s theory- Gilligan"s theory- Consensus and controversy – Models of professional roles- Theories about right action- Self interest - Customs and religion –Uses of Ethical theories – Valuing time –Co operation – Commitment.

**Unit III :**

**ENGINEERING AS SOCIAL EXPERIMENTATION:** Engineering As Social Experimentation – Framing the problem – Determining the facts – Codes of Ethics – Clarifying Concepts – Application issues – Common Ground - General Principles – Utilitarian thinking respect for persons.

**UNIT IV:**

**ENGINEERS RESPONSIBILITY FOR SAFETY AND RISK:** Safety and risk – Assessment of safety and risk – Risk benefit analysis and reducing riskSafety and the Engineer- Designing for the safety- Intellectual Property rights(IPR).

**UNIT V:**

**GLOBAL ISSUES:** Globalization – Cross culture issues- Environmental Ethics – Computer Ethics – Computers as the instrument of Unethical behavior – Computers as the object of Unethical acts – Autonomous Computers- Computer codes of Ethics – Weapons Development - Ethics .

**Text Books :**

1. "Engineering Ethics includes Human Values" by M.Govindarajan, S.Natarajan and V.S.SenthilKumar-PHI Learning Pvt. Ltd-2009.
2. "Engineering Ethics" by Harris, Pritchard and Rabins, CENGAGE Learning, India Edition, 2009.
3. "Ethics in Engineering" by Mike W. Martin and Roland Schinzinger – Tata McGrawHill– 2003.
4. "Professional Ethics and Morals" by Prof.A.R.Aryasri, Dharanikota Suyodhana-Maruthi Publications.
5. "Professional Ethics and Human Values" by A.Alavudeen, R.Kalil Rahman and M.Jayakumaran , Laxmi Publications.

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B.Tech. I - II Sem. (CSE)

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(15A01101) ENVIRONMENTAL STUDIES

**OBJECTIVE:** 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.

**UNIT – I**

**MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES:** – Definition, Scope and Importance – Need for Public Awareness.

**NATURAL RESOURCES :** Renewable and non-renewable resources – Natural resources and associated problems – Forest resources – Use and over – exploitation, deforestation, case studies – Timber extraction – Mining, dams and other effects on forest and tribal people – Water resources – Use and over utilization of surface and ground water – Floods, drought, conflicts over water, dams – benefits and problems – Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies – 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:

**UNIT – II**

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

- Forest ecosystem.
- Grassland ecosystem
- Desert ecosystem
- Aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries)

**BIODIVERSITY AND ITS CONSERVATION :** Introduction 0 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, National and local levels – India as a mega-diversity nation – Hot-spots of biodiversity – Threats to biodiversity: habitat loss, poaching of wildlife, man-wildlife conflicts – Endangered and endemic species of India – Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

**UNIT – III**

**ENVIRONMENTAL POLLUTION:** Definition, Cause, effects and control measures of :

- Air Pollution.
- Water pollution
- Soil pollution
- Marine pollution
- Noise pollution

  
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- 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.

#### **UNIT – IV**

**SOCIAL ISSUES AND THE ENVIRONMENT:** From Unsustainable to Sustainable development – Urban problems related to energy – Water conservation, rain water harvesting, watershed management – Resettlement and rehabilitation of people; its problems and concerns. Case studies – Environmental ethics: Issues and possible solutions – Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case Studies – Wasteland reclamation. – Consumerism and waste products. – Environment Protection Act. – Air (Prevention and Control of Pollution) Act. – Water (Prevention and control of Pollution) Act – Wildlife Protection Act – Forest Conservation Act – Issues involved in enforcement of environmental legislation – Public awareness.

#### **UNIT – V**

**HUMAN POPULATION AND THE ENVIRONMENT:** Population growth, variation among nations. Population explosion – Family Welfare Programmed. – Environment and human health – Human Rights – Value Education – HIV/AIDS – Women and Child Welfare – Role of information Technology in Environment and human health – Case studies.

**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..

#### **TEXT BOOKS :**

1. Text book of Environmental Studies for Undergraduate Courses by Erach Bharucha for University Grants Commission, Universities Press.
2. Environmental Studies by Kaushik, New Age Publishers.

#### **REFERENCES :**

1. Environmental studies by R.Rajagopalan, Oxford University Press.
2. Comprehensive Environmental studies by J.P.Sharma, Laxmi publications.
3. Introduction to Environmental engineering and science by Gilbert M. Masters and Wendell P. Ela - Printice hall of India Private limited.

#### **Outcomes :**

- (1) Students will get the sufficient information that will clarify modern environmental concepts like equitable use of natural resources, more sustainable life styles etc.
- (2) Students will realize the need to change their approach so as to perceive our own environmental issues correctly, using practical approach based on observation and self learning.
- (3) Students become conversant with the fact that there is a need to create a concern for our environment that will trigger pro-environmental action; including simple activities we can do in our daily life to protect it.
- (4) By studying environmental sciences, students is exposed to the environment that enables one to find out solution of various environmental problems encountered on and often.



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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR

B. Tech III-II Sem. (C.E)

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15A01607 DISASTER MANAGEMENT AND MITIGATION  
(CBCC – I)

**Course Objective:-**The objectives of this **subject** is to give the basic knowledge of Environmental Hazards and disasters. The syllabus includes the basics of Endogenous and Exogenous hazards and gives a suitable picture on the different types of hazard and disaster mitigation methods.

**Unit-I**

Environmental Hazards & Disasters: Meaning of Environmental hazards, Environmental Disasters and Environmental stress. Concept of Environmental Hazards, Environmental stress & Environmental Disasters. Different approaches & relation with human Ecology - Landscape Approach - Ecosystem Approach - Perception approach - Human ecology & its application in geographical researches.

**Unit -II**

Types of Environmental hazards & Disasters: Natural hazards and Disasters - Man induced hazards & Disasters - Natural Hazards- Planetary Hazards/ Disasters - Extra Planetary Hazards/ disasters - Planetary Hazards- Endogenous Hazards - Exogenous Hazards –

**Unit-III**

Endogenous Hazards - Volcanic Eruption – Earthquakes – Landslides - Volcanic Hazards/ Disasters - Causes and distribution of Volcanoes - Hazardous effects of volcanic eruptions - Environmental impacts of volcanic eruptions - Earthquake Hazards/ disasters - Causes of Earthquakes - Distribution of earthquakes - Hazardous effects of - earthquakes - Earthquake Hazards in India - - Human adjustment, perception & mitigation of earthquake.

**Unit -IV**

Exogenous hazards/ disasters - Infrequent events- Cumulative atmospheric hazards/ disasters Infrequent events: Cyclones – Lightning – Hailstorms Cyclones: Tropical cyclones & Local storms - Destruction by tropical cyclones & local storms (causes , distribution human adjustment, perception & mitigation)Cumulative atmospheric hazards/ disasters : - Floods- Droughts- Cold waves- Heat waves. Floods:- Causes of floods- Flood hazards India- Flood control measures ( Human adjustment, perception & mitigation).Droughts:- Impacts of droughts- Drought hazards in India- Drought control



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measures- Extra Palnetary Hazards/ Disasters- Man induced Hazards /Disasters-  
Physical hazards/ Disasters-Soil Erosion

Soil Erosion:-- Mechanics & forms of Soil Erosion- Factors & causes of Soil Erosion-  
Conservation measures of Soil Erosion. Chemical hazards/ disasters:-- Release of toxic  
chemicals, nuclear explosion- Sedimentation processes. Sedimentation processes:-  
Global Sedimentation problems- Regional Sedimentation problems- Sedimentation &  
Environmental problems- Corrective measures of Erosion & Sedimentation. Biological  
hazards/ disasters:- Population Explosion.

### Unit -V

Emerging approaches in Disaster Management- Three Stages

1. Pre- disaster stage (preparedness)
2. Emergency Stage
3. Post Disaster stage-Rehabilitation

### Text books:

1. Disaster Management by Rajib Shah, Universities Press, India, 2003
2. Disaster Science and Management by Tushar Bhattacharya, TMH Publications.
3. Disaster Mitigation: Experiences And Reflections by Pardeep Sahni
4. Natural Hazards & Disasters by Donald Hyndman & David Hyndman – Cengage Learning

### References:

1. The Environment as Hazards by Kates, B.I & White, G.F, Oxford Publishers, New York, 1978
2. Disaster Management by R.B. Singh (Ed), Rawat Publication, New Delhi, 2000
3. Disaster Management by H.K. Gupta (Ed), Universiters Press, India, 2003
4. Space Technology for Disaster Mitigation in India (INCED) by R.B. Singh,, University of Tokyo, 1994.

### Course Outcomes:

*On completion of the course the students will have knowledge on*

1. *Types of disasters and their effects on environment*
2. *Causes of disasters*
3. *Disaster management through engineering applications*



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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**

**B. Tech III-II Sem. (CSE)**

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**15A05607 LINUX ENVIRONMENT SYSTEM  
(CBCC-I)**

**Course Objectives:**

**The student should be made to:**

- Understand the Multiuser, Multiprocessing, Multitasking, and multiprogramming environment.
- Learn the various flavors and installation types of Linux operating system.
- Experiences the installation and configuration status of Linux system.
- Learn the file system and various commands of Linux environment system.

**Course Outcomes:**

- Able to describe and use the LINUX operating system.
- Able to describe and use the fundamental LINUX system tools and utilities.
- Able to describe and write shell scripts in order to perform basic shell programming.
- Able to describe and understand the LINUX file system.

**UNIT-I**

**INTRODUCTION TO LINUX OPERATING SYSTEM:** Introduction and Types of Operating Systems, Linux Operating System, Features, Architecture Of Linux OS and Shell Interface, Linux System Calls, Linux Shared Memory Management, Device and Disk Management in Linux, Swap space and its management. File System and Directory Structure in Linux. Multi-Processing, load sharing and Multi-Threading in Linux, Types of Users in Linux, Capabilities of Super Users and equivalents.

**UNIT -II**

**INSTALLING LINUX AS A SERVER :** Linux and Linux Distributions ; Major differences between various Operating Systems (on the basis of: Single Users vs Multiusers vs Network Users; Separation of the GUI and the Kernel; Domains; Active Directory;).

**INSTALLING LINUX IN A SERVER CONFIGUARTION :** Before Installation; Hardware; Server Design ;Dual-Booting Issues; Modes of Installation; Installing Fedora Linux; Creating a Boot Disk; Starting the Installation; GNOME AND KDE



: The History of X Windows; The Downside; Enter GNOME; About GNOME ; Starting X Windows and GNOME; GNOME Basics; The GNOME Configuration Tool.

### **UNIT-III**

**INSTALLING SOFTWARE** : The Fedora Package Manager; Installing a New Package using dpkg and RPM; Querying a Package; Uninstalling a Package using dpkg and RPM; Compiling Software; Getting and Unpacking the Package; Looking for Documentation; Configuring the Package; Compiling Your Package; Installing the Package, Driver Support for various devices in linux.

**MANAGING USERS:** Home Directories ;Passwords; Shells; Stratup Scripts; Mail; User Databases; The / etc /passwd File; The / etc / shadow File; The / etc /group File; User Management Tools; Command-Line User Management; User LinuxConf to Manipulate Users and Groups; SetUID and SetGID Programs.

### **UNIT IV**

**THE COMMAND LINE** : An Introduction to BASH, KORN, C, A Shell etc. ; BASH commands: Job Control; Environment Variables; Pipes; Redirection; Command-Line Shortcuts; Documentation Tools; The man Command; the text info System; File Listings; Owner ships and permissions; Listing Files; File and Directory Types; Change Ownership; Change Group; Change Mode ; File Management and Manipulation; Process Manipulation; Miscellaneous Tools; Various Editors Available like: Vi and its modes, Pico, Joe and emacs, , Su Command.

**BOOTING AND SHUTTING DOWN:** LILO and GRUB; Configuring LILO; Additional LILO options; Adding a New Kernel to Boot ; Running LILO; The Steps of Booting; Enabling and disabling Services.

### **UNIT-V**

**FILE SYSTEMS:** The Makeup File Systems; Managing File Systems; Adding and Partitioning a Disk; Network File Systems; Quota Management;

**CORE SYSTEM SERVICES:** The init Service; The inetd and xinetd Processess; The syslogd Daemon; The cron Program.

**PRINTING** : The Basic of lpd; Installing LPRng; Configuring /etc/printcap; The /ETC/lpd.perms File; Clients of lpd, Interfacing Printer through Operating System.

### **Text Books:**

1. Linux Administration : A Beginner's Guide by Steve Shah , Wale Soyinka, ISBN 0072262591 (0-07-226259-1), McGraw-Hill Education.
2. Unix Shell Programming, Yashavant P. Kanetkar, BPB Publications, 2003.
3. UNIX Concepts and Applications by Sumitabha Das Tata McGraw-Hill, 2006.



4. Operating System Concepts 8<sup>th</sup> edition, by Galvin Wiley Global Education, 2012.

**References:**

1. Unix operating system, by Grace Todino, John Strang, Jerry D. Peek Oreily publications 1993.
2. Operating System Concepts 8<sup>th</sup> edition, by Galvin Wiley Global Education, 2012.

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JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR

B. Tech IV-I Sem. (C.E)

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15A01703 ENVIRONMENTAL ENGINEERING

**Course Objective:** This subject provides the knowledge of water sources, water treatment, design of distribution system, waste water treatment, and safe disposal methods. The topics of characteristics of waste water, sludge digestion are also included.

**UNIT - I**

**INTRODUCTION:** Importance and Necessity of Protected Water Supply systems, Objectives of Protected water supply system, Flow chart of public water supply system, Role of Environmental Engineer.

**WATER DEMAND AND QUANTITY STUDIES :** Estimation of water demand for a town or city, Types of water demands, Per capita Demand, Factors affecting the Per Capita Demand, Variations in the Demand, Design Period, Factors affecting the Design period, Population Studies, Population Forecasting Studies.

**QUALITY AND ANALYSIS OF WATER:** Characteristics of water – Physical, Chemical and Biological. Analysis of Water – Physical, Chemical and Biological. Impurities in water, Water borne diseases. Drinking water quality standards.

**UNIT - II**

**WATER TREATMENT:** Layout and general outline of water treatment units – sedimentation – principles – design factors – coagulation-flocculation clarifier design – coagulants – feeding arrangements. Filtration and Chlorination: Filtration – theory – working of slow and rapid gravity filters – multimedia filters – design of filters – troubles in operation comparison of filters – disinfection – theory of chlorination, chlorine demand, other disinfection practices- Miscellaneous treatment methods

**WATER DISTRIBUTION :** Distribution systems – Requirements, Layout of Water distribution systems - Design procedures- Hardy Cross and equivalent pipe methods service reservoirs – joints, valves such as sluice valves, air valves, scour valves and check valves water meters – laying and testing of pipe lines – pump house, waste detection and prevention.

**UNIT - III**

**INTRODUCTION TO SANITATION :** systems of sanitation – relative merits & demerits – collection and conveyance of waste water – sewerage – classification of sewerage



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systems- Estimation of sewage flow and storm water drainage – fluctuations – types of sewers – Hydraulics of sewers and storm drains– design of sewers – materials for sewers- appurtenances in sewerage – cleaning and ventilation of sewers .

**WASTE WATER COLLECTION AND CHARACTERISTICS :** Conservancy and water carriage systems – sewage and storm water estimation – time of concentration – storm water overflows combined flow – characteristics of sewage – cycles of decay – decomposition of sewage, examination of sewage – B.O.D. – C.O.D. equations.

#### **UNIT IV**

**WASTE WATER TREATMENT:** Layout and general out line of various units in a waste water treatment plant – primary treatment: design of screens – grit chambers – skimming tanks – sedimentation tanks – principles of design – biological treatment – trickling filters – standard and high rate – Construction and design of Oxidation ponds.

**SLUDGE TREATMENT:** Sludge digestion – factors effecting – design of Digestion tank – Sludge disposal by drying – septic tanks and Imhoff Tanks, working principles and design – soak pits.

#### **UNIT – V**

**SOLID WASTE MANAGEMENT:** Characteristics, generation, collection and transportation of solid wastes, engineered systems for solid waste management (reuse/ recycle, energy recovery, treatment and disposal).

**AIR POLLUTION:** Types of pollutants, their sources and impacts, air pollution meteorology, air pollution control, air quality standards and limits.

**NOISE POLLUTION:** Impacts of noise, permissible limits of noise pollution, measurement of noise and control of noise pollution.

#### **TEXT BOOKS:**

1. Water Supply And Sanitary Engineering By G.S. Birdi, Dhanpat Rai & Sons Publishers.
2. Water Supply Engineering, Vol. 1, Waste Water Engineering, Vol. II, B.C.Punmia, Ashok Jain & Arun Jain, Laxmi Publications Pvt.Ltd, New Delhi
3. Environmental Engineering By Peavy, TMH Publishers.

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**JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY ANANTAPUR**

B. Tech IV-I Sem. (C.E)

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**15A01712 ENVIRONMENTAL ENGINEERING LABORATORY**

**Course Objective:**

*The laboratory provides knowledge of estimating various parameters like PH, Chlorides, Sulphates, Nitrates in water. For effective water treatment, the determination of optimum dosage of coagulant and chloride demand are also included. The estimation status of Industrial effluents will also be taught in the laboratory by estimating BOD and COD of effluent.*

**LIST OF EXPERIMENTS**

1. Determination of pH and Turbidity
2. Determination of Conductivity and Total dissolved solids.
3. Determination of Alkalinity/Acidity.
4. Determination of Chlorides.
5. Determination and Estimation of total solids, organic solids and inorganic solids.
6. Determination of iron.
7. Determination of Dissolved Oxygen.
8. Determination of Nitrogen.
9. Determination of total Phosphorous.
10. Determination of B.O.D
11. Determination of C.O.D
12. Determination of Optimum coagulant dose.
13. Determination of Chlorine demand.
14. Presumptive coliform test.

**NOTE:** At least 8 of the above experiments are to be conducted.