

# **JNTUK, Kakainada**

**Course: B.Tech**

**Regulation: R13**

## **Professional Ethics and Human Values**

### **UNIT I : Human Values**

Morals, Values and Ethics – Integrity – Work Ethics – Service Learning – Civic Virtue – Respect for others – Living Peacefully – Caring – Sharing – Honesty – Courage – Value time – Co-operation – Commitment – Empathy – Self-confidence – Spirituality- Character.

### **UNIT II : Engineering Ethics**

The History of Ethics-Purposes for Engineering Ethics-Engineering Ethics- Consensus and Controversy –Professional and Professionalism –Professional Roles to be played by an Engineer –Self Interest, Customs and Religion-Uses of Ethical Theories-Professional Ethics-Types of Inquiry – Engineering and Ethics-Kohlberg’s Theory – Gilligan’s Argument –Heinz’s Dilemma.

### **UNIT III : Engineering as Social Experimentation**

Comparison with Standard Experiments – Knowledge gained – Conscientiousness – Relevant Information – Learning from the Past – Engineers as Managers, Consultants, and Leaders – Accountability – Role of Codes – Codes and Experimental Nature of Engineering.

### **UNIT IV : Engineers’ Responsibility for Safety and Risk**

Safety and Risk, Concept of Safety – Types of Risks – Voluntary v/s Involuntary Risk- Short term v/s Long term Consequences- Expected Probability- Reversible Effects- Threshold Levels for Risk- Delayed v/s Immediate Risk- Safety and the Engineer – Designing for Safety – Risk-Benefit Analysis-Accidents.

### **UNIT V : Engineers’ Responsibilities and Rights**

Collegiality-Techniques for Achieving Collegiality –Two Senses of Loyalty- obligations of Loyalty-misguided Loyalty – professionalism and Loyalty- Professional Rights –Professional Responsibilities – confidential and proprietary information-Conflict of Interest-solving conflict problems – Self- interest, Customs and Religion- Ethical egoism-Collective bargaining-Confidentiality-Acceptance of Bribes/Gifts-when is a Gift and a Bribe- examples of Gifts v/s Bribes-problem solving-interests in other companies- Occupational Crimes-industrial espionage-price fixing-endangering lives- Whistle Blowing-types of whistle blowing-when should it be attempted- preventing whistle blowing.

### **UNIT VI : 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 and Research-Analyzing Ethical Problems in Research-Intellectual Property Rights.

**Text Books**

- “Engineering Ethics & Human Values” by M.Govindarajan, S.Natarajan and V.S.SenthilKumar-PHI Learning Pvt. Ltd-2009.
- “Professional Ethics and Morals” by Prof.A.R.Aryasri, Dharanikota Suyodhana-Maruthi Publications.
- “Professional Ethics and Human Values” by A.Alavudeen, R.Kalil Rahman and M. Jayakumaran- Laxmi Publications
- “Professional Ethics and Human Values” by Prof. D.R. Kiran.
- “Indian Culture, Values and Professional Ethics” by PSR Murthy- BS Publication.
- “Ethics in Engineering” by Mike W. Martin and Roland Schinzinger – Tata McGraw-Hill – 2003.
- “Engineering Ethics” by Harris, Pritchard and Rabins, CENGAGE Learning, India Edition, 2009.

# JNTUK, Kakainada

**Course: B.Tech**

**Regulation: R13**

## **Environmental Studies**

### **Course Learning Objectives**

The objectives of the course is to impart

- Overall understanding of the natural resources.
- Basic understanding of the ecosystem and its diversity.
- Acquaintance on various environmental challenges induced due to unplanned anthropogenic activities.
- An understanding of the environmental impact of developmental activities.
- Awareness on the social issues, environmental legislation and global treaties.

### **Course Outcomes**

The student should have knowledge on

- The natural resources and their importance for the sustenance of the life and recognise the need to conserve the natural resources.
- The concepts of the ecosystem and its function in the environment. The need for protecting the producers and consumers in various ecosystems and their role in the food web.
- The biodiversity of India and the threats to biodiversity, and conservation practices to protect the biodiversity.
- Various attributes of the pollution and their impacts and measures to reduce or control the pollution along with waste management practices.
- Social issues both rural and urban environment and the possible means to combat the challenges.
- The environmental legislations of India and the first global initiative towards sustainable development.
- About environmental assessment and the stages involved in EIA and the environmental audit.

### **UNIT – I**

**Multidisciplinary nature of Environmental Studies:** Definition, Scope and Importance – Sustainability: Stockholm and Rio Summit–Global Environmental Challenges: Global warming and climate change, acid rains, ozone layer depletion, population growth and explosion, effects. Role of information Technology in Environment and human health.

**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 Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems.

### **UNIT – II**

**Natural Resources:** Natural resources and associated problems Forest resources – Use and over – exploitation, deforestation – 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.

**Food resources:** World food problems, changes caused by non-agriculture activities-effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity. **Energy resources:** Growing energy needs, renewable and non-renewable energy sources use of alternate energy sources. **Land resources:** Land as a resource, land degradation, Wasteland reclamation, man induced landslides, soil erosion and desertification. Role of an individual in conservation of natural resources. Equitable use of resources for sustainable lifestyles.

### **UNIT – III**

**Biodiversity and its conservation:** Definition: genetic, species and ecosystem diversity-classification – Value of biodiversity: consumptive use, productive use, social-Biodiversity at national and local levels. India as a mega-diversity nation – Hot-spots of biodiversity – Threats to

**biodiversity:** habitat loss, man-wildlife conflicts. – Endangered and endemic species of India – Conservation of biodiversity: conservation of biodiversity.

### **UNIT – IV**

**Environmental Pollution:** Definition, Cause, effects and control measures of Air pollution, Water pollution, Soil pollution, Noise pollution, Nuclear hazards. Role of an individual in prevention of pollution. – Pollution case studies.

**Solid Waste Management:** Sources, classification, effects and control measures of urban and industrial solid wastes. Consumerism and waste products.

### **UNIT – V**

**Social Issues and the Environment:** Urban problems related to energy – Water conservation, rain water harvesting-Resettlement and rehabilitation of people; its problems and concerns. Environmental ethics: Issues and possible solutions. Environmental 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 – VI**

**Environmental Management:** Impact Assessment and its significance various stages of EIA, preparation of EMP and EIS, Environmental audit. Ecotourism The student should submit a report individually on any issues related to Environmental Studies course and make a power point presentation.

### **Text Books**

- Environmental Studies by R. Rajagopalan, 2nd Edition, 2011, Oxford University Press.
- A Textbook of Environmental Studies by Shaashi Chawla, TMH, New Delhi.
- Environmental Studies by P.N. Palanisamy, P. Manikandan, A. Geetha, and K. Manjula Rani; Pearson Education, Chennai.
- Reference
- Text Book of Environmental Studies by Deeshita Dave & P. UdayaBhaskar, Cengage Learning.
- Environmental Studies by K.V.S.G. Murali Krishna, VGS Publishers, Vijayawada.
- Environmental Studies by Benny Joseph, Tata McGraw Hill Co, New Delhi.
- Environmental Studies by Piyush Malaviya, Pratibha Singh, and Anoop singh: Acme Learning, New Delhi.

**INTELLECTUAL PROPERTY RIGHTS AND PATENTS**  
**JNTUK, Kakainada**

**Course: B.Tech**

**Regulation: R13**

**Syllabus:**

UNIT I: Introduction to Intellectual Property Law – The Evolutionary Past - Intellectual Property Law basics – Types of IP- Innovations and Inventions of Trade related Intellectual Property Rights – Agencies responsible for IP registration- Infringement – Regulatory – Over use or Misuse of IPRs – Compliance and liability issues.

UNIT II: Introduction to Copyrights–Principles of Copyright Principles -The subjects Matter of Copy right –The Rights Afforded by Copyright Law–Copy right Ownership, Transfer and duration–Right to prepare Derivative works–Rights of Distribution–Rights of Perform the work Publicity Copyright Formalities and Registrations-Limitations-Copyright disputes and International Copyright Law–Semiconductor Chip Protection Act.

Unit III: Introduction to Patent Law – Rights & Limitations –Rights under patent law- Patent requirements- ownership & Transfer- patent application process & granting- Patent Infringement and litigation- The Evolutionary Past – International patent Law – double patenting- patent searching- Patent cooperation Treaty- new development 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 patent Proceeding – Infringement - Dilution Ownership of Trade mark – Likelihood of confusion - Trademarks claims – Trademarks Litigations – International Trade mark Law

UNIT V: Introduction to Trade Secret – 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

Unit VI: Introduction to Cyber Law – IT act- Cybercrime and E-Commerce – Data security- Confidentiality- International aspects of Computer and online crime.

**Reference Books:**

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
4. Prabhuddha Ganguli: ‘ Intellectual Property Rights” Tata Mc-Graw –Hill, New Delhi
5. Richard Stim: “Intellectual Property”, Cengage Learning, New Delhi.
6. R.Radha Krishnan, S.Balasubramanian: “Intellectual Property Rights”, Excel Books. New Delhi
7. M.Ashok Kumar and Mohd.Iqbal Ali: “Intellectual Property Right” Serials Pub.

# ADITYA COLLEGE OF ENGINEERING

(Approved by AICTE & Affiliated to JNTUK, Kakinada)  
(Recognized by UGC under section 2(f) of UGC Act 1956)  
Aditya Nagar, ADB Road, Surampalem - 533 437.

---

Date: 12-08-2017

## CIRCULAR

All the II, III, and IV B.Tech students we here by inform you that our college management is going to organize an event on “support to training and employment program for women” On 14-08-2017. So, we request all the students to attend the program and make it a grand success.



A handwritten signature in green ink, appearing to be "M. S. R.", written over a horizontal line.

**Principal**

PRINCIPAL  
Aditya College of Engineering  
SURAMPALEM-533 437

# ADITYA

## COLLEGE OF ENGINEERING

Approved by AICTE & Affiliated to JNTUK, Kakinada

(Formerly known as Sri Aditya Engineering College)

Ph: 99631 76662

Email: office@acoe.edu.in

Website: www.acoe.edu.in

DATE: 07-08-2017,

SURAMPALEM.

Dear Sir/Madam

Sub: Invitation – Seminar on support to training and employment program for women (STEP) -  
Circulation among students – Requested – Reg.

\* \* \*

We are Pleased to inform you that Aditya college of engineering is organizing seminar on  
“Gender equity program” Which is titled above during 14 august 2017.

Thanking you



A handwritten signature in green ink, appearing to be "T. Rama Krishna Rao".

Yours faithfully,

(T.RAMA KRISHNA RAO)

PRINCIPAL

PRINCIPAL

Aditya College of Engineering  
SURAMPALEM-533 437

# ADITYA

## COLLEGE OF ENGINEERING

Approved by AICTE & Affiliated to JNTUK, Kakinada

(Formerly known as Sri Aditya Engineering College)

Ph: 99631 76662

Email: office@acoe.edu.in

Website: www.acoe.edu.in

DATE: 14-08-2017,

SURAMPALEM.

Dear Sir/Madam`

We are very glad to have your presence as a potential delegate which is conducted on 14-08-2017. Sir our students are very fortunate for having such a valuable speech on support to training and employment program for women and your interaction among students regarding event is speechless. So, we thank you on behalf of our college management, staff and students for spending your valuable time on this event.



Aditya College of Engineering

(T.RAMA KRISHNA RAO)

PRINCIPAL

PRINCIPAL

Aditya College of Engineering  
SURAMPALEM-533 437

# ADITYA COLLEGE OF ENGINEERING

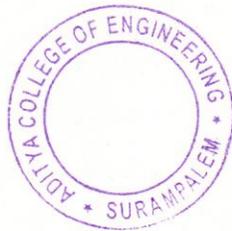
(Approved by AICTE & Affiliated to JNTUK, Kakinada)  
(Recognized by UGC under section 2(f) of UGC Act 1956)  
Aditya Nagar, ADB Road, Surampalem - 533 437.

---

Date: 01-07-2016

## CIRCULAR

All the II, III, and IV B.Tech students we here by inform you that our college management is going to organize an event on “socio-economic development and empowerment of women” On 02-07-2016. So, we request all the students to attend the program and make it a grand success.



A handwritten signature in green ink, appearing to be "M. S. R."

**Principal**

PRINCIPAL  
Aditya College of Engineering  
SURAMPALEM-533 437

# ADITYA

## COLLEGE OF ENGINEERING

Approved by AICTE & Affiliated to JNTUK, Kakinada

(Formerly known as Sri Aditya Engineering College)

Ph: 99631 76662

Email: office@acoe.edu.in

Website: www.acoe.edu.in

DATE: 25-06-2016,

SURAMPALEM.

Dear Sir/Madam

Sub: Invitation – Seminar on socio-economic development and empowerment of women -  
Circulation among students – Requested – Reg.

\* \* \*

We are Pleased to inform you that Aditya college of engineering is organizing seminar on  
“Gender equity program” Which is titled above during 02 July 2016.

Thanking you



A handwritten signature in green ink, appearing to be "T. Rama Krishna Rao".

Yours faithfully,

(T.RAMA KRISHNA RAO)

PRINCIPAL

PRINCIPAL  
Aditya College of Engineering  
SURAMPALEM-533 437

# ADITYA

## COLLEGE OF ENGINEERING

*Approved by AICTE & Affiliated to JNTUK, Kakinada*

*(Formerly known as Sri Aditya Engineering College)*

Ph: 99631 76662

Email: [office@acoe.edu.in](mailto:office@acoe.edu.in)

Website: [www.acoe.edu.in](http://www.acoe.edu.in)

DATE: 02-07-2016,

SURAMPALEM.

Dear Sir/Madam

We are very glad to have your presence as a potential delegate which is conducted on 02-07-2016. Sir our students are very fortunate for having such a valuable speech on socio-economic development and empowerment of women and your interaction among students regarding event is speechless. So, we thank you on behalf of our college management, staff and students for spending your valuable time on this event.



From

Aditya College of Engineering

(T.RAMA KRISHNA RAO)

PRINCIPAL

PRINCIPAL

Aditya College of Engineering  
SURAMPALEM-533 437

# ADITYA COLLEGE OF ENGINEERING

(Approved by AICTE & Affiliated to JNTUK, Kakinada)  
(Recognized by UGC under section 2(f) of UGC Act 1956)  
Aditya Nagar, ADB Road, Surampalem - 533 437.

---

Date: 13-10-2015

## CIRCULAR

All the II, III, and IV B.Tech students we here by inform you that our college management is going to organize an event on “Gender equality in higher education must be made a global priority” On 14-10-2015. So, we request all the students to attend the program and make it a grand success.



A handwritten signature in green ink, appearing to be "M. S. S.", written over a horizontal line.

**Principal**

**PRINCIPAL**  
**Aditya College of Engineering**  
**SURAMPALEM-533 437**

# ADITYA

## COLLEGE OF ENGINEERING

Approved by AICTE & Affiliated to JNTUK, Kakinada

(Formerly known as Sri Aditya Engineering College)

Ph: 99631 76662

Email: office@acoe.edu.in

Website: www.acoe.edu.in

DATE: 03-10-2015,

SURAMPALEM.

Dear Sir/Madam

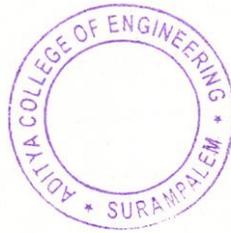
Sub: Invitation – Seminar on Gender equality in higher education must be made a global priority

- Circulation among students – Requested – Reg.

\* \* \*

We are Pleased to inform you that Aditya college of engineering is organizing seminar on  
“Gender equity program” Which is titled above during 14 October 2015.

Thanking you



A handwritten signature in green ink, appearing to be "T. Rama Krishna Rao".

Yours faithfully,

(T.RAMA KRISHNA RAO)

PRINCIPAL

PRINCIPAL  
Aditya College of Engineering  
SURAMPALEM-533 437

# ADITYA

## COLLEGE OF ENGINEERING

*Approved by AICTE & Affiliated to JNTUK, Kakinada*

*(Formerly known as Sri Aditya Engineering College)*

Ph: 99631 76662

Email: [office@acoe.edu.in](mailto:office@acoe.edu.in)

Website: [www.acoe.edu.in](http://www.acoe.edu.in)

DATE: 14-10-2015,

SURAMPALEM.

Dear Sir/Madam

We are very glad to have your presence as a potential delegate which is conducted on 14-10-2015. Sir our students are very fortunate for having such a valuable speech on Gender equality in higher education must be made a global priority and your interaction among students regarding event is speechless. So, we thank you on behalf of our college management, staff and students for spending your valuable time on this event.



From

Aditya College of Engineering

(T.RAMA KRISHNA RAO)

PRINCIPAL

PRINCIPAL  
Aditya College of Engineering  
SURAMPALEM-533 437

# ADITYA COLLEGE OF ENGINEERING

(Approved by AICTE & Affiliated to JNTUK, Kakinada)  
(Recognized by UGC under section 2(f) of UGC Act 1956)  
Aditya Nagar, ADB Road, Surampalem - 533 437.

---

Date: 21-01-2014

## CIRCULAR

All the II, III, and IV B.Tech students we here by inform you that our college management is going to organize an event on “Educational development in women” On 23-01-2014. So, we request all the students to attend the program and make it a grand success.



A handwritten signature in green ink, appearing to be "M.S.", written over a horizontal line.

**Principal**

PRINCIPAL  
Aditya College of Engineering  
SURAMPALEM-533 437



## SRI ADITYA ENGINEERING COLLEGE

(Approved by AICTE and Affiliated to JNTU KAKINADA)

Aditya Nagar, ADB Road, Surampalem - 533 437, E.G.Dt.,  
Ph: 08852-200002, 9963176662.

DATE: 16-01-2014,

SURAMPALEM.

Dear Sir/Madam

Sub: Invitation – Seminar on Educational development in women - Circulation among students –

Requested – Reg.

\* \* \*

We are Pleased to inform you that Aditya college of engineering is organizing seminar on  
“Gender equity program” Which is titled above during 23 January 2014.

Thanking you



Yours faithfully,

(T.RAMA KRISHNA RAO)

PRINCIPAL

PRINCIPAL  
Aditya College of Engineering  
SURAMPALEM-533 437



## SRI ADITYA ENGINEERING COLLEGE

(Approved by AICTE and Affiliated to JNTU KAKINADA)

Aditya Nagar, ADB Road, Surampalem - 533 437, E.G.Dt.,  
Ph: 08852-200002, 9963176662.

DATE: 23-01-2014,

SURAMPALEM.

Dear Sir/Madam

We are very glad to have your presence as a potential delegate which is conducted on 23-01-2014. Sir our students are very fortunate for having such a valuable speech on Educational development in women and your interaction among students regarding event is speechless. So, we thank you on behalf of our college management, staff and students for spending your valuable time on this event.

From

Aditya College of Engineering

(T.RAMA KRISHNA RAO)

PRINCIPAL

PRINCIPAL  
Aditya College of Engineering  
SURAMPALEM-533 437

# ADITYA COLLEGE OF ENGINEERING

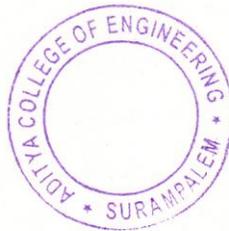
(Approved by AICTE & Affiliated to JNTUK, Kakinada)  
(Recognized by UGC under section 2(f) of UGC Act 1956)  
Aditya Nagar, ADB Road, Surampalem - 533 437.

---

Date: 01-08-2013

## CIRCULAR

All the II, III, and IV B.Tech students we here by inform you that our college management is going to organize an event on “Women and gender equality in higher education” On 03-08-2013. So, we request all the students to attend the program and make it a grand success.



A handwritten signature in green ink, appearing to be "M. S. R.", written over a horizontal line.

**Principal**

PRINCIPAL  
Aditya College of Engineering  
SURAMPALEM-533 437



## SRI ADITYA ENGINEERING COLLEGE

(Approved by AICTE and Affiliated to JNTU KAKINADA)

Aditya Nagar, ADB Road, Surampalem - 533 437, E.G.Dt.,  
Ph: 08852-200002, 9963176662.

DATE: 23-07-2013,

SURAMPALEM.

Dear Sir/Madam

Sub: Invitation – Seminar on Women and gender equality in higher education - Circulation among students – Requested – Reg.

\* \* \*

We are Pleased to inform you that Aditya college of engineering is organizing seminar on “Gender equity program” Which is titled above during 03 August 2013.

Thanking you



Yours faithfully,

(T.RAMA KRISHNA RAO)

PRINCIPAL  
PRINCIPAL  
Aditya College of Engineering  
SURAMPALEM-533 437



## SRI ADITYA ENGINEERING COLLEGE

(Approved by AICTE and Affiliated to JNTU KAKINADA)

Aditya Nagar, ADB Road, Surampalem - 533 437, E.G.Dt.,  
Ph: 08852-200002, 9963176662.

DATE: 03-08-2013,

SURAMPALEM.

Dear Sir/Madam

We are very glad to have your presence as a potential delegate which is conducted on 03-08-2013. Sir our students are very fortunate for having such a valuable speech on Women and gender equality in higher education and your interaction among students regarding event is speechless. So, we thank you on behalf of our college management, staff and students for spending your valuable time on this event.

From

Aditya College of Engineering

(T.RAMA KRISHNA RAO)

PRINCIPAL

PRINCIPAL  
Aditya College of Engineering  
SURAMPALEM-533 437