



# Jaya Sakthi Engineering College

(Approved by AICTE, New Delhi & Affiliated to Anna University, Chennai)

St. Mary's Nagar, Thiruninravur, (Near Avadi), Chennai - 602 024.

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**Prof. Dr. A. Kanagaraj**, M.A., M.Phil., Ph.D.,  
Chairman

**Mrs. K. Vijayakumari**, M.A., B.Ed.,  
Secretary

Date : 6 MAR 2023

## List of Professional Ethics, Gender, and Human Values activities conducted

By

### Jaya Sakthi Engineering College

1. Special medical camp for people in Pollivakkam Village Thiruvallur District was conducted from **12.3.2018 to 18.03.2018**.
2. Special Yoga Camp for Government Higher Secondary School, Polivakkam students from **04.02.2019 to 07.02.2019**.
3. YRC Unit celebrated World Environment Day on **05.06.2021** by Planting Tree Saplings in various villages of Thiruvallur District.
4. NSS and YRC unit of Jaya Sakthi Engineering College Conducted Swaach Bharat Abhiyan Campaign to make our Country Clean and neat, thereby creating disease free generation of citizens from **22.06.2022 to 26.06.2022**.
5. During heavy flood in Chennai from **06.11.2021 to 12.11.2021**, many places were very badly affected and normal life of people was disrupted very badly. Faculty and students of our college distributed more than 1000 food packets to people badly affected as part of flood relief operations.



**Principal**

PRINCIPAL  
JAYA SAKTHI ENGINEERING COLLEGE  
St. Mary's Nagar, Near Avadi,  
Thiruninravur, Chennai-602024



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## Syllabus for Ethics Studies

Anna University- Chennai.

### U.G Degree Course

#### **GE8076 PROFESSIONAL ETHICS IN ENGINEERING**

#### **OBJECTIVES:**

To enable the students to create an awareness on Engineering Ethics and Human Values, to instill Moral and Social Values and Loyalty and to appreciate the rights of others.

#### **UNIT I HUMAN VALUES**

10

Morals, values and Ethics – Integrity – Work ethic – Service learning – Civic virtue – Respect for others – Living peacefully – Caring – Sharing – Honesty – Courage – Valuing time – Cooperation – Commitment – Empathy – Self confidence – Character – Spirituality – Introduction to Yoga and meditation for professional excellence and stress management.

#### **UNIT II ENGINEERING ETHICS**

9

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.

**UNIT III ENGINEERING AS SOCIAL EXPERIMENTATION 9**

Engineering as Experimentation – Engineers as responsible Experimenters – Codes of Ethics -A Balanced Outlook on Law

**UNIT IV SAFETY, RESPONSIBILITIES AND RIGHTS 9**

Safety and Risk – Assessment of Safety and Risk – Risk Benefit Analysis and Reducing Risk

- Respect for Authority – Collective Bargaining – Confidentiality – Conflicts of Interest – Occupational Crime – Professional Rights – Employee Rights – Intellectual Property Rights(IPR) – Discrimination.

**UNIT V GLOBAL ISSUES 8**

Multinational Corporations – Environmental Ethics – Computer Ethics – Weapons Development – Engineers as Managers – Consulting Engineers – Engineers as Expert Witnesses and Advisors – Moral Leadership –Code of Conduct – Corporate Social Responsibility.

**TOTAL: 45 PERIODS**

**Syllabus for Environmental Studies**  
**GE8291 ENVIRONMENTAL SCIENCE AND ENGINEERING**

**OBJECTIVES:**

- ✓ To study the nature and facts about environment.
- ✓ To finding and implementing scientific, technological, economic and political solutions to environmental problems.
- ✓ To study the interrelationship between living organism and environment.
- ✓ To appreciate the importance of environment by assessing its impact on the human world  
envison the surrounding environment, its functions and its value.

**UNIT I ENVIRONMENT, ECOSYSTEMS AND BIODIVERSITY** 14

Definition, scope and importance of environment – need for public awareness - 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 (a) forest ecosystem (b) grassland ecosystem (c) desert ecosystem (d) aquatic ecosystems (ponds, streams, lakes, rivers, oceans, estuaries) – Introduction to biodiversity definition: genetic, species and ecosystem diversity – biogeographical classification of India – value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values – Biodiversity at global, national and local 37 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. Field study of common plants, insects, birds; Field study of simple ecosystems – pond, river, hill slopes, etc.

## **UNIT II ENVIRONMENTAL POLLUTION**

8

Definition – causes, 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 municipal solid wastes – role of an individual in prevention of pollution – pollution case studies – disaster management: floods, earthquake, cyclone and landslides. Field study of local polluted site – Urban / Rural / Industrial / Agricultural.

## **UNIT III NATURAL RESOURCES**

10

Forest resources: Use and over-exploitation, deforestation, case studies- timber extraction, mining, dams and their effects on forests and tribal people – Water resources: Use and over- utilization of surface and ground water, floods, drought, conflicts over water, dams-benefitsand 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: Growing energy needs, renewable and non renewable energy sources, use of alternate energy sources. case studies – Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification – role of an individual in conservation of natural resources – Equitable use of resources for sustainable lifestyles. Field study of local area to document environmental assets – river / forest / grassland / hill / mountain.

## **UNIT IV SOCIAL ISSUES AND THE ENVIRONMENT**

**7**

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 – role of non-governmental organization 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 production act – Air(Prevention and Control of Pollution) act – Water (Prevention and control of Pollution) act – Wildlife protection act – Forest conservation act – enforcement machinery involved in environmental legislation- central and state pollution control boards- Public awareness.

## **UNIT V HUMAN POPULATION AND THE ENVIRONMENT**

**6**

Population growth, variation among nations – population explosion – family welfare programme – 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.

**TOTAL: 45 PERIODS**

### **OUTCOMES:**

- Environmental Pollution or problems cannot be solved by mere laws. Public participation is an important aspect which serves the environmental Protection. One will obtain knowledge on the following after completing the course
- Public awareness of environmental is at infant stage.
- Ignorance and incomplete knowledge has lead to misconception
- Development and improvement in std. of living has lead to serious environmental disasters

**TEXTBOOKS:**

1. Benny Joseph, 'Environmental Science and Engineering', Tata McGraw-Hill, New Delhi, 2006.
2. Gilbert M.Masters, 'Introduction to Environmental Engineering and Science', 2nd edition, Pearson Education, 2004.

**REFERENCES :**

1. Dharmendra S. Sengar, 'Environmental law', Prentice hall of India PVT LTD, New Delhi, 2007.
2. Erach Bharucha, "Textbook of Environmental Studies", Universities Press(I) PVT, LTD, Hyderabad, 2015.
3. Rajagopalan, R, 'Environmental Studies-From Crisis to Cure', Oxford University Press, 2005.
4. G. Tyler Miller and Scott E. Spoolman, "Environmental Science", Cengage Learning India PVT, LTD, Delhi, 2014.

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Jaya Sakthi Engineering College, conducted special medical camp for people in pollivakkam Village Thiruvallur District. The camp was attended by lot of common people and a variety of treatments were provided to the villages. The Camp happened from 12-3-2018 TO 18-03-2018.





The NSS Unit of Jaya Sakthi Engineering College conducted special Yoga Camp for Government Higher Secondary School, Polivakkam students. The Yoga Camp was conducted from 04.02.2019 to 07.02.2019.



Jaya Sakthi Engineering College and its YRC Unit celebrated World Environment Day on **05.06.2021** by Planting Tree Saplings in Hundred different Places in and around Thiruvallur District. The Volunteers also created awareness among people about importance of Trees to Environment and Mankind.





**22.06.2022 to 26.06.2022**

NSS and YRC unit of Jaya Sakthi Engineering College Conducted Swachh Bharat Abhiyan Campaign to make our Country Clean and neat, thereby creating disease free generation of citizens. The Principal Dr.B.Gobinathan Emphasized the importance of Cleanliness for a healthy and disease free India.



### **Flood Relief:**

Due to heavy flood in Chennai from 06.11.2021 to 12.11.2021, many places were very badly affected and normal life of people was disrupted very badly. As part of flood relief operations by the faculty and students, 1000 food packets were distributed issued to the affected people at various places after the flood.