**II Jai Sri Gurudev II**

**ADICHUNCHANAGIRI INSTITUTE OF TECHNOLOGY**   
(Affiliated to Visvesvaraya Technological University, Belagavi)

**Chikkamagaluru – 577102**

**Department of Mechanical Engineering**

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**Course Name: Bio fuel generation and performance study**

**Program Objective:**

The course is designed to teach students about renewable energy and bio fuels. The course covers the overview of available renewable energy options, their role in mitigating greenhouse gases, and deals in detail about the bio fuels engineering. The course discusses about the biomass resources and their composition; types of bio fuels; conversion technologies (thermo chemical, supercritical water, and biochemical conversion processes); bio diesel from vegetable oils, algae to bio fuels economic and environmental assessments; and future R&D needs.

**Coordinator: Mr Basavarajappa M P**

**Course Director: Dr. Satyanarayana G M**

**Teaching Hours: 30**

**Certification Criteria:**

1. Minimum 90% of attendance

**Syllabus:**

**CHAPTER 01:-**

Need of Bio-fuel, future scope of bio-fuel, Advantages and

Disadvantages of Bio-Fuel, Environmental benefits, Reduction in Emission,

Different Bio-fuels, National Policy on Bio-fuels, and Current Affairs on Bio-Fuel.

**CHAPTER 02:-**

Collection and study of Bio-seeds ,seed cleaning process, Oil

Extraction Oil Purification Conversion to Bio-diesel, washing and Drying

Process, Filtration properties of Bio-diesel, comparison with diesel, By-

Products-Oil, Cake, Soap

**CHAPTER 03:-**

Study of performance, combustion and Emission, Characteristics of

Bio-Diesel engine (without modification) and comparison with Diesel.

**CHAPTER 04:-**

Conduction of Awareness programme to farmers and Gram Panchayath

members Bio-Seed sampling.

**Course Enquiry Contact:**

**Department of Mechanical Engineering**

**AIT Campus, AIT, Jyothinagara, Chikkamagaluru-577102**