



कॉलेज ऑफ इंजीनियरिंग रूड़की  
COLLEGE OF ENGINEERING ROORKEE

Affiliated to UTU, Dehradun  
Affiliated to UBTER  
Approved by AICTE & MHRD, Govt. of India

### CRITERIA 7.3.1

Portray the performance of the Institution in one area distinctive to its  
priority and thrust

INSTITUTIONAL  
DISTINCTIVENESS



### **ENVIRONMENT FRIENDLY PRACTICES:**

“A healthier environment leads to a healthier brain”. This phrase so well matches with COER philosophy of developing a clean and green campus with zero waste. This is achieved by focusing on (i) use of eco-friendly, renewable energy sources for meeting partial energy requirement in the campus, hostels and faculty residences, (ii) spreading awareness among students and staff for protecting the environment and to use green technologies, (iii) recycling solid waste generated in the campus, hostels and faculty residences through eco-friendly practices, and (iv) encouraging research in the area of green energy and environmental technology.

The sprawling campus is truly green. Students sitting under trees and green spaces in between the classes are a rare sight which this Institution so proudly possesses. The students by and large remain calm and cheerful. The college has adopted the 'Green Campus' system for environmental conservation and sustainability which stands on three pillars – no new building footprints, positive impact on health and performance of campus inmates and environmental literacy. The goal is to reduce CO<sub>2</sub> emission, conserve energy and save water. The 'Green Campus' has been active since last 10 years with committees actively promoting various projects related to environmental issues. The college administration works on the several facets of 'Green Campus' including Water Conservation, Tree Plantation, Waste Management, Paperless Working, Alternative Energy and Mapping of Biodiversity.

### **Environment Friendly Green Initiatives of COER:**

- **Installation of solar PV panels and solar water heaters:** As mentioned in previous section, solar water heaters (80,000 ltrs) are installed in the College campus in hostels. For providing hot water to students and staff residing in campus, the College is also in the process of installing a solar PV power plant of 300KW.
- **Establishment of waste management system:** The waste generated from office and hostel premises of the college is collected in separate dustbins. Recyclable waste such as paper, cloths and fallen leaves of trees is collected separately. E-waste generated from offices is also planned to be recycled back through e-waste dealers. A Sewage Treatment Plant (STP) has also been established by the College. COER has signed Mou for solid waste, e-waste and biomedical waste management.
- **Maintaining green cover in the college campus:** The College has maintained ample green cover in its campus by regular plantations in its premises. Different species of trees have been planted in the campus for enhancing the green diversity.
- **Pollution, Polythene and Plastic-free campus:** Smoking and open fire is not allowed in the College campus. Movement of vehicles is restricted inside the campus. Use of polythene is strictly prohibited. College encourages use of public transport of college and bicycles by the employees. An e- vehicle has also been developed by COER.

- **Solar Energy Lab:** A solar lab is initiated in the College to do the research on different aspects of solar energy generation technologies which was opened by Professor CS Solanki, the ‘Solar Man’ of IIT Bombay. The College is also a participant of Solar Ambassador program, a worldwide initiative of Professor Solanki launched on October 02, 2019. The solar lamp developed at IIT Bombay is being popularised by the institute not only among student but also among young students of nearby villages by conducting workshops on assembling the lamp and its distribution among them.
- **Renewable energy projects:** A research project under CRS scheme of TEQIP-3 has been sanctioned entitled ‘solar hybrid kitchen in solar lab of college. Apart from this college also has biofuel research laboratory specifically focusing on waste biomass to Bioenergy conversion. Recently laboratory also received one TEQIP-3 project entitled “Low Temperature Transesterification of Dry Algae Dry Jatropha Seed and Performance Evaluation of IC Engine using that Biodiesel”. The instruments purchased from the grant were Bomb Calorimeter and Gas Analyzer. One patent has also been published in Indian Patent Journal. Biofuel lab has received a grant of Rs. Three lakhs and solar energy lab received a grant of Rs. 2.66 lakhs from TEQIP-3 funds in 2019 for research projects on green technologies.
- **Use of alternate sources of energy:** COER has established a Biogas plant for managing solid waste (kitchen waste) and generating methane gas to be utilized as fuel. Sensor based energy conservation is ensured by incorporating motion sensors in conference halls and classrooms. LED lights are used in campus to conserve energy.
- **Water conservation facilities:** This includes rainwater harvesting structures, waste water recycling and maintenance of water bodies.
- **Spreading Environmental awareness among students and employees:** The College spreads environmental awareness among students and staff members by celebrating Environment Day and Biodiversity Day. It also initiated “Swachh University Abhiyan” under “Swachh Bharat Abhiyan” of the Government of India to encourage and maintain cleanliness in and around the campus. Students and employees are motivated to undertake plantations. Various eco clubs and initiatives like ‘Haritima’ are taken by the students for promotion of eco-friendly practices.