

**Charutar Vivya Mandal 's**

**C. L. PATEL INSTITUTE OF STUDIES AND  
RESEARCH IN RENEWABLE ENERGY**

# PROSPECTUS 2020

**M.Sc. RENEWABLE ENERGY**



**C. L. Patel Institute of Studies and Research in  
Renewable Energy**

[www.isrre.edu.in](http://www.isrre.edu.in)

## Message

**Er. Bhikhubhai B. Patel, Chairman, Charutar Vidya Mandal**

I am happy to learn about the course and the research work in the field of renewable energy is being undertaken at the ISREE. It is high time to develop a skilled human resource with theoretical and practical knowledge of renewable energy technologies when the whole world is increasingly inclined toward renewable energy. The country has set up a certain goal to generate the power from renewable energy sources and reduce the dependency on fuel import. ISRRE is putting efforts in this direction with great zeal and continuous efforts to train the future human resources as well as the conducting some good research through government funding. I heartily express all my good wishes for the progress of this institute and bright future for the students.



## About Renewable Energy

Energy is essential for the progress and development of the mankind and nation. The availability of energy resources and capability to use in appropriate manner for the productive development of a nation is the key factor in the economic growth of the country.

The adequate supply of fuel ensures the continuous and sustainable growth. Presently we are more dependent on conventional petroleum fuels which causes the air and water pollution, emits hazardous emissions and responsible for global warming. Rising prices of fuel and shortage in supply are major concern of our times. Energy crisis in late 70's forced the world to think about the alternative sources of energy which is clean and environmental friendly. The energy crisis had led to many innovations as well as research and

development programmes in all sectors related to the energy. Ozone depletion and climate change have become more prominent issues in science and technology, industry and international relations. The role of renewable energy, energy conservation and energy management has come into a sharp focus in recent years.

To build sufficient technical capacity and develop economically viable renewable energy technologies and energy efficient systems and to meet the major objectives of the Ministry of New and Renewable Energy (MNRE) and the Bureau of Energy Efficiency (BEE), India, adequate scientific and technical manpower at all levels is required. Energy conservation and renewable energy utilization hold tremendous potential of employment generation and social entrepreneurship for human resources trained in almost all streams of engineering, technology, sciences and humanities. In fact, several self-employment opportunities in renewable energy and energy efficiency sectors for modestly-trained and self-trained human resources exist in all parts of country.

## About Us

C. L. Patel Institute of Studies And Research in Renewable Energy (ISRRE) is one of the humble undertakings of CVM that upholds the mission of making a modern and prosperous independent India by providing modern education in the field of renewable energy. The institute is located in the blooming environment of the extended educational township "New Vallabh Vidyanagar".

- The institute is located in vibrant campus of new Vallabh Vidyanagr, Anand and having 10 different institutes like engineering, biotechnology, ayurvedic, architectures, hotel management etc.

- The campus offers state of art sport complex, gym, auditorium, amenities centers etc.
- Campus is active with co-curricular and extra-curricular activities providing opportunity for all round personality development.
- The institute has well qualified faculty members with PhD and NET
- The department has ongoing research project funded by Department of Science and Technology (DST) and GUJCOST
- Students are encouraged for regular industrial visit and industrial training
- The academic program is designed to establish an apex studies and research institution for carrying out state-of-the art teaching, research and developmental activities in the thrust area of renewable energy
- The course imparts an advanced technical level of education in renewable energy with specialization in systems technology, Environmental Modeling and Energy Management.

## Vision

To develop renewable energy solutions & nurture human resources for sustainability of energy

## Mission

- To promote use of renewable energy resources and sustainable technologies through education and technical assistance
- To provide the trained manpower in the field of renewable energy.

## About Course

The institute offers a 2 year full time post graduate course; M.Sc. in Renewable Energy, with semester pattern (total four semesters) based on Choice Based Credit System (CBCS.).

The institute focuses on academic studies as well research and development programmes. This will help the students to enhance their theoretical knowledge with practical understanding.

The programme focuses on-

- Solar energy technologies for thermal & photovoltaic application
- Wind energy conversion technology
- Biomass conversion technology for thermal & power application
- Energy Conservation and management practices
- Compulsory project work/ dissertation in final semester for all students
- It is at par with the global prerequisite for advanced Education
- Choice based specialization

## Admission Procedure

### Application

Download the application form from the institute website and filled in application form sent to institute address:

THE PRINCIPAL,  
C. L. PATEL INSTITUTE OF STUDIES AND RESEARCH IN  
RENEWABLE ENERGY, ARIBAS Campus, New Vallabh  
Vidyanagar -388 121 Anand, Gujarat, India

### Eligibility Criteria

The students from B.Sc. (any Science graduate), B. E./B.Tech (All branches) /other science related fields from a recognized University of Gujarat / India are eligible.

Also eligible for foreign students from SAARC and nearby countries, developing countries from Asia and Africa as per SPU norms.

### Documents Required

Along with duly filled application form, following documents are to be submitted

1. Copy of degree certificate/ Grade certificate
2. Copy of leaving certificate
3. Copy of caste certificate if you belong to SC/ST/OBC
4. Two passport size photographs

At the time of admission, students will have to submit the following original documents, which will be returned after verification

1. Degree certificate/ Grade certificate
2. Leaving certificate
3. Caste certificate

### Selection Procedure

Selection of the candidates will be done on merit list from application received

### Fee Structure

The tuition fees for the course is Rs. 32,500/- per semester. The hostel fees, and gymkhana fees shall be applicable as per rules

## Seats Available

Total available seats for the programme are: 30

## Course Content

M.Sc. Renewable Energy-First Year	
SEMESTER-I	SEMESTER-II
<b>CORE COURSES</b> PS01CREN01: Fundamental of Renewable Energy Technology  PS01CREN02: Solar Energy  PS01CREN03: Geothermal Energy and Biomass Energy  <b>ELECTIVE COURSES</b> PS01EREN01: Wind Energy  PS01CREN04: Practical  PS01CREN05: Practical  PS01CREN06: Viva Voce	<b>CORE COURSES</b> PS02CREN01: Renewable Energy: Conversion, Storage and Environmental aspects  PS02CREN02: Ocean Energy and Tidal Energy  PS02CREN03: Hydro Energy and Chemical Energy Sources  <b>ELECTIVE COURSES</b> PS02EREN01: Alternate Energy Sources  PS02CREN04: Practical  PS02CREN05: Practical  PS02CREN06: Viva Voce

M.Sc. Renewable energy (System Technology), Second Year	
SEMESTER-III	SEMESTER-IV
<b>CORE COURSES</b> PS03CREST1: Solar Photovoltaic Technology  PS03CREST2: Numerical Method and Computer Programming  PS03CREST3: Advances in Biomass Gasification  PS03CREST4: Practical  PS03CREST5: Practical  PS03CREST6: Viva Voce  <b>ELECTIVE COURSES</b> PS03EREST1: Optimum Utilization of Heat and Power  PS03EREST2: Energy Economic, Policy & Regulation act  PS03EREST3: Solar Thermal Technology	<b>CORE COURSES</b> PS04CREST1: Wind Energy Technology  PS04CREST2: Practical  PS04CREST3: Project/ Dissertation  PS04CREST4: Viva Voce  <b>ELECTIVE COURSES</b> PS04EREST1: Research Methodology  PS04EREST2: Modeling of Solar Thermal system  PS04EREST3: Biofuel Technology  PS04EREST4: Advanced Thermal Storage Technologies PS04EREST5: Green Building

## Infrastructure Facility

### Building

The institute has good infrastructure with all facilities like class room, laboratories. The new building construction is in progress in the same campus.



C. L. Patel Institute of Studies and Research in Renewable Energy (ISRRE)

### Library

C. L. Patel Institute of Studies and Research in Renewable Energy (ISRRE) has a well-equipped Library with the latest Text book Reference books, Newsletters. We are in process of creating best facility with subscription of national, international journals, magazines.

### Hostel

Hostel facilities are available to both boys and girls, on the campus with facilities of providing good mess facilities, Wi-fi connectivity



## Transport facility

Charutar Vidya Mandal is providing the transport facilities for the students commuting from the outstation. The facility will be available from Railway Station, Vallabh Vidyanagar to New Vallabh Vidyanagar.

## Laboratory

The institute has well equipped laboratory with all necessary equipments and instruments. Currently the institute has State of art solar park, biomass conversion, biomass gasification power generation laboratory, wind energy laboratory. Other required facilities development with advanced equipments and instrumentation is in progress.

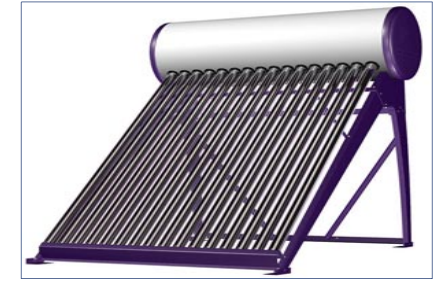
## Laboratory facility

### Solar Laboratory

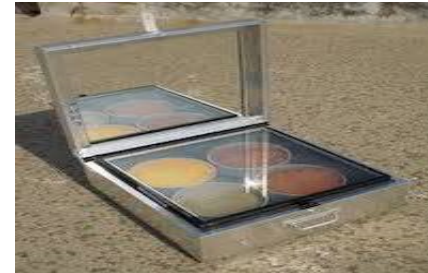
A dedicated and fully functional solar energy laboratory is equipped with high quality systems and instruments required for conducting the practical as well as research. The solar lab has been developed keeping in a view to give the students insight of the different solar energy technologies.



Parabolic Solar Cooker



Solar Water Heater



Box type solar cooker



Pyranometer



Solar Dryer



Solar rooftop PV system

## Wind Energy Laboratory

Wind energy laboratory focus on the studies related to wind energy generation technology and hybrid power generation. The wind energy lab has a prototype of wind and solar hybrid system to study the power generation characteristics of the combine energy generation.



Wind –Solar Hybrid Laboratory Model

## Biomass Conversion Laboratory

Biomass is one of the major sources of energy on the earth. The biomass conversion laboratory is dedicated to studies on the conversion and utilization of the biomass energy into different forms. The laboratory is equipped with all required facilities to conduct the practical as well as research projects.

## Career Prospects

Renewable Energy is fast growing sector as more and more industries are entering in Renewable Energy sector with requirement of skilled manpower. In India, renewable energy sector has created over 50,000 direct jobs in the last three years. It is estimated to create 2.4 million more jobs by 2030.

The prime areas where the students can mould their career are Project planning, manufacturing, installation, commissioning, operation and maintenance of renewable energy projects

- Energy management, energy conservation, energy audit
- Environmental policy/ legislation for both Government and private organization
- Waste management (municipal, large industries)



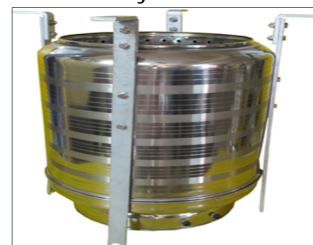
Biomass Gasifier Power system



Gas Chromatograph



Online data logger



Improved Biomass Cookstove



Hot air oven



Muffle furnace

The college have tie-up with following institutions:

1. A. D. Patel Institute of Technology, New V.V.Nagar
2. Sophisticated Instrumentation Centre for Applied Research & Testing, V.V.Nagar
3. Govindbhai Jorabhai Patel Ayurveda College, New V.V.Natar

## Research and Development

- Scientific manpower in renewable energy technologies like solar photovoltaic, solar thermal, fuel cells, hydrogen, biomass conversion, wind energy

- Scientific data analysis

Working as researcher, planner, designer, consultant, regulator, auditor, manager to the

- University/ R & D institutions
- Private research organizations
- Private consulting and manufacturing firms
- Laboratories
- NGO's in the field of renewable energy

## Charutar Vidya Mandal

The town is the synthesis of varied cultures, which enable it to evolve and expand the quality life, as well as to foster the environment of creativity amongst the student citizens. Those who stay here always cherish the golden moments of life on the campus. Today, the town has compounded in strength and consolidated itself to take on the challenges of emerging future. Vallabh Vidyanagar, established fifty-five years ago, carries a rarity of purpose behind its origin and a variety of education with its development and growth. Strategically located between Ahmedabad and Vadodara, Vallabh Vidyanagar today has emerged to be an Active Educational Hub in the Western parts of India. Just six kilometers from India's milk city-Anand, it has made its distinct identity in the sector of education by offering numerous emerging and innovative educational programs and by attracting students from across the globe. Anand is situated between Ahmedabad and Vadodara on the main rail-link and also NH8, about 75 kms from Ahmedabad and 40 km from Vadodara. Vallabh Vidyanagar is blessed with the beauty of nature. Its lush green trees of different types and kinds have not only made the town environment-friendly, but also created a serene and ever-enjoyable peaceful atmosphere generating synergistic pleasure on the campus. The pollution-free climate, attracting many to

make the town their permanent home, adds value to the academic life on the campus. Vallabh Vidyanagar has all the amenities which major metropolis has; rather it has best of both the worlds - glamour of a big city and simplicity of a small town. On one hand, it captures the current trends of the youth, while it attempts to make those trends meaningful by making the presence of different spiritual centers felt. The town is the synthesis of varied cultures, which enable it to evolve and expand the quality life, as well as to foster the environment of creativity amongst the student citizens. Those who stay here always cherish the golden moments of life on the campus. Today, the town has compounded in strength and consolidated itself to take on the challenges of emerging future.





### Present Team



Shri Prayasvin B Patel

President



Shri Manishbhai S. Patel

Vice - President



Shri Sumantbhai J. Patel

Trustee



Shri Hemantbhai J. Patel

Trustee



Er. Bhikhubhai B. Patel

Chairman



Dr. S. G. Patel

Hon. Secretary



Shri B. P. Patel  
Hon. Jt. Secretary



Shri Mehul D. Patel  
Hon. Jt. Secretary



Shri R. C. Talati  
Hon. Jt. Secretary



Shri K. S. Patel  
Hon. Jt. Secretary



Shri V. H. Patel  
Hon. Jt. Secretary

### Contact Us

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