

MANDATORY DISCLOSURE

I. Name of the Institution

Name	CSIR - Central Electrochemical Research Institute	
Address	Permanent Location, as approved by AICTE	Temporary Location
	CSIR - Central Electrochemical , Karaikudi	Not applicable
Taluk	Karaikudi	
District	Sivagangai	
Pin code	630 003	
State		
Telephone	(04565) 241475	
FAX No.	(04565) 227713	
Web site	www.cecni.res.in	
Nearest Railway Station	Karaikudi	
Nearest Airport	Trichy and Madurai	

II. Name and Address of the Director

Name	Dr. N. Kalaiselvi		
Address	Director, CSIR - Central Electrochemical Research Institute, Karaikudi		
Taluk	Karaikudi		
District	Sivagangai		
PIN	630 003		
State	Tamil Nadu		
Telephone	(04565) 227778		
FAX No.	(04565) 227779	e-mail: director@cecri.res.in	

III. Name of the Affiliating University

Name	Chennai.		
Address	Anna University , Guindy, Chennai - 600 025.		
Telephone	044 - 2235 7097		
FAX No.	044 - 2230 0916	Web site	www.annauniv.edu

IV. Governance

Central Electrochemical Research Institute is a constituent statutory body of Council of Scientific and (CSIR), Department of Scientific Industrial Research, Govt. of India, New Delhi.

The B.Tech (Chemical & Electrochemical) programme conducted at Centre for ,CECRI, is affiliated to Anna University, Chennai.

The Research Council of CECRI is the activities of CECRI. The Committee for Management of Affairs of Centre for Education and the Co-ordinating Council for CFE Administration & Activities are looking after the activities of Centre for Education.

Research Council

Detail available on the following link

<http://www.cecri.res.in/AboutUs/ResearchCouncil.aspx>

Committee for Management of Affairs of Centre for Education

<i>Sl. No.</i>	<i>Name</i>	<i>Position</i>	<i>Present Professional Position</i>
1.	Dr. N.Kalaiselvi	Chairman	Director, CECRI
2.	Dr T Raju	Member	Chief Scientist
3.	Dr A Manokaran	Member	Principal Scientist
4.	Dr J Mathiarasu	Member	Sr. Principal Scientist
5.	Dr. S Giribabu	Member	Scientist
6.	Dr. M Kathiresan	Member	Scientist
7.	Dr R Vedhalakshmi	Member	Sr. Principal Scientist
8.	Shri. K M Sridhar	Member	Controller of Administration
9.	Shri T Karthikai Kannan	Member	Finance & Accounts Officer
10.	Shri K P S Ganapathy	Member	SPO
11.	Dr. S. Sathiyarayanan	Member	Chief Scientist
12.	Dr B Ramesh babu	Member-Convener	Dean

Co-ordinating Council for CFE Administration and Activities

Sl. No.	Name	Position	Qualification	Present Professional Position
1.	Dr.B. Ramesh Babu	Dean	B.E.,M.Sc.(Env.Sc.),PGDGA,Ph.D	Chief Scientist
2.	Dr.A Manokaran	Associate Dean	M.E., Ph.D	Principal Scientist

Frequency of the Academic Advisory Body Meeting

At least one Meeting in each year

Nature and Extent of involvement of faculty and students in academic affairs/ improvements

Every class shall have a class committee consisting of faculty of the concerned class, student representatives and a Class Committee Chairman, who is not teaching the class. The overall goal of the committee is for improving the teaching. The functions of the Class Committee include

- To overcome the difficulties experienced by students in the and in the laboratories
- The regulations of the programme and the details of rules therein to the students.
- Informing the student representatives about the including the dates of assessment tests and the syllabus coverage for each assessment

- Informing the student representatives the details regarding weightage used for each . In the case of practical courses (laboratory/drawing/project work/seminar etc.) the break up of marks for each experiment/ exercise/module of work, shall be discussed in the class committee meeting and informed to the students
- Analyzing the performance of the students in each and finding the ways and means to improve the performance
- Identifying the weak students, if any, and requesting the faculty concerned to provide some additional help or guidance or coaching to such weak students.

Faculty Adviser: Two faculty member' function as advisor for each class and their function include monitoring of academic performance, attendance of each student, sending their progress reports to the parents and apprise the Dean about the progress of the students

Mechanism/Norms and Procedure for democratic/Good governance

Committee for of Affairs of Centre for Education; Co-ordination Council for administration and other activities of Centre for Education; Hostel & Mess Committee.

Student Feedback on Institutional Governance/faculty performance

Through Class Committee Meetings, Feedback from Alumni.

Grievance redressal mechanism for faculty, staff and students

Through Class Committee Meetings.

V. Programmes

Name of the programmes accredited by the AICTE: Not applied

Name and duration of programme(s) having affiliation/collaboration with Foreign University(s) / Institution(s) and being run in the same campus along with status of their AICTE approval

- Nil -

VI. Faculty -

Visiting Faculty	Nil
Adjunct Faculty	Nil
Guest Faculty	From IISC- Bangalore, NIT – Trichy & IIT - Chennai
Permanent Faculty : Student Ratio	1:16
Number of faculty employed and left during the last three years	Nil

VII. Profile of Director with qualifications, total experience, age and duration of employment at the institute concerned

For details click the link <https://www.cecni.res.in/Profile.aspx>

VIII. Fee As per Annexure - I

Details of Fees: The tuition fees and other fees are being charged as per the recommendations of the Committee for Management Affairs and as approved by Anna University.

Time Schedule for payment of fee for the entire programme	Every Semester (June/November)
No. of scholarship offered by the Institute, duration & amount	Nil
Criteria for fee waivers/scholarship	Not applicable
Estimated cost of boarding and Lodging in Hostels	Admission Fee : Rs. 500 Water,Electricity Charges & Room Rent : Rs. 8500/Year Hostel Establishment Charges : Rs. 14000/Year Caution deposit : Rs. 8,000 Boarding : Dividing system

IX. Admission Procedure

No. of seats sanctioned with the year of approval

Sl. No.	Branch	Seats sanctioned	Year of approval
1	B.Tech (Chemical & Electrochemical Engineering)	35+5*	1988

* Other State Quota.

Number of students admitted under various categories each year in the last three years

Sl. No.	Year	Open	BC	MBC	SC/ST
1.	2019-2020	11	11	07	06

2.	2020-2021	11	11	07	06
3.	2021-2022	11	11	07	06

Number of applications received during last two years for admission under Management Quota and number admitted

Not applicable

X. Admission Procedure

The admissions are made on merit, for 35 seats through single window, Tamil Nadu Engineering Admission (<http://www.annauniv.edu/>) and for 5 seats(other state quota) through JEE examination(main).

XI. Criteria and Weightages for Admission

Describe each criteria with its respective weightages i.e. Admission Test, marks in qualifying examination, etc.

The criteria for admission is prescribed by the Govt. of Tamil Nadu and Anna University, Chennai issued every year, through common prospectus for admission to professional degree courses

Mention the minimum level of acceptance, if any

Qualification: A pass in 12th Standard of Tamil Nadu HSC (Academic) with mathematics, physics and chemistry or equivalent

For SC/ST candidates, a mere pass in the qualifying examination will suffice and the minimum marks are the same as the passing minimum for HSC/Diploma of the State of Tamil Nadu. Candidates belonging to communities other than SC/ST should have obtained the following minimum marks

- (i) **For Communities other than BC/MBC&DNC/SC/ST- other communities:** A minimum average of 55% and above in Mathematics, Physics and Chemistry
- (ii) **For BC communities:** A minimum average of 50% and above in Mathematics, Physics and Chemistry.
- (iii) **For MBC &DNC Communities:** A minimum average of 45% and above in Mathematics, Physics and Chemistry.
- (iv) Mention the cut-off levels of percentage & percentile scores of the candidates in the admission test for the last three years

Name of the programme approved by the AICTE	No. of seats sanctioned	Duration	Cut off mark/rank for admission during the last three years									Fee	Placement Facilities	Campus placement in last three years	
			Year	OC	BCM	BC	MBC	SC	SCA	ST	Year			Student	
	35 + 5*										As per	Yes			

B.Tech (Chemical & Electrochemical Eng ineering)	4 years/ 8 Semest ers	201 9- 20	190 .5	189. 00	187. 50	185 .5	175 .0	162. 50	Anne xure I	20 19	14
		202 0- 21	190 .0	189. 50	188. 00	182 .5	173 .5	151. 50		20 20	12
		202 1- 22	193 .0	190. 29	191. 53	192 .5	186 .5	178. 94		20 21	11

*** Other State Quota**

Display marks scored in test, etc. and in aggregate for all candidates who were admitted

Criteria and weightages for admission keep changing as per the directives of Anna University (www.annauniv.edu).

XII. Application Form

Not applicable

XIII. List of Applicants

Not applicable

XIV. Results of admission under management seats/vacant seats

Not applicable

XV. Information on infrastructure and other resources available

LIBRARY (a) Books

Category	Total books available in Knowledge Resource Centre, CSIR-CECRI as on date	Department Library(CFE)
Volumes	52653	2486

(b) Journals

Sl. No.	Journals subscribed	
	National	International
1.	17	e Journal packages: ACS, ECS, John Wiley, OUP, RSC, Springer, AIP, Nature, Elsevier, ISI WoS, T&F (around 2000 titles)

E-Library facilities: **CECRI** Library has access to over 1000 online journals in various fields.

LABORATORY: *List of major equipments/Facilities*

Sl. No.	Name of the Laboratory	Experimental Facilities/Major Equipment
1.	Chemistry Labs	General Chemistry: Water Analysis, pH determination, Conductometry, Potentiometer, Spectrophotometer, Flame

		<p>photometer, Ostwald viscometer, COD apparatus, Thermostatic water bath, Horizontal rotary mechanical shaker. Organic Chemistry: Qualitative analysis, Preliminary reactions, Test for saturation/unsaturation, Aliphatic/aromatic nature, Elements (N, S, Halogens), Functional groups, Acids, Phenols, Esters, Aldehydes and Ketones, Carbohydrates, Alcohols, Amines, Amides nitro group, hydrocarbon. Preparation: Hydrolysis–Benzoic acid from benzamide, Acetylation–Acetyl salicylic acid from salicylic acid, Bromination – Tribromo aniline from aniline, Nitration – Picric acid from phenol, Benzoylation – Phenyl benzoate from phenol and Oxidation – Benzoic acid from benzaldehyde.</p> <p>Physical Chemistry: Experimental setups for Phase rule critical solution temperature, Phase rule effect of impurities on critical solution temperature, Water analysis - determination of dissolved oxygen, Extractive techniques - distribution coefficient, Kinetics - rate constant of hydrolysis of ester by acid, Polymer - viscosity measurements, Transition temperature measurements and Precipitation titration</p>
2.	Physics Labs	Spectrometers, Travelling microscopes, Sodium Vapour Lamp Setups, Deflection magnetometer, Diffraction gratings, Mercury Vapour Lamp Setups, Torsion Pendulum, Lees disc apparatus, Electronic Top loading balances, Digital Multimeters, Vernier Calipers, Screw gauges, Reading lens with metal frames, Rheostats.

		Non uniform bending apparatus, Viscosity (Poiseuilles flow) apparatus, Air Wedge apparatus, Newton 's Ring apparatus, Ultrasonic interferometer apparatus.
3.	Electrical Electronics Engineering Labs	<p>& Electrical: RLC Circuits, D.C. Shunt Generator O.C.C., D.C. Shunt Motor Load characteristics, Speed Control of D.C. Shunt Motor., O.C. & S.C. test on single phase trans former, Alternator Regulation (e.m.f. method), Induction motor Load tests, Calibration of MI & MC Instruments, Power measurement by two-watt meter method., Calibration of energy meter, Study of Y/D starters.</p> <p>Electronics: Diode, Transistor, FET, UJT, SCR characteristics, Multi vibrators using IC 555, Frequency response of RC coupled Amplifier, RC phase shift oscillator, Wien bridge oscillator, Basic operational amplifier using IC 741, Adder, Multiplier, Integrator, Differentiator using IC741, Study of logic gates and counters.</p>
4.	Workshop Practices	Various tools and equipments for wiring and Soldering practices, Various tools for servicing of equipments and measuring Instruments. Various tools for Fitting, Plumbing and Carpentry practices.

5. **Computer Labs**

Hardware: Laptop Computer Systems, P-IV Computer Systems, Laser Printers, Scanners, Web Cameras, LCD projectors.

Software: C and C++ programming, Word processing, Unix commands, Shell programming, C programming and File management, Programs in C for signal handling and process management, Imparting a strong base in solving problems relating to differentiation, integration and differential equations in numerical methods using C and MatLab programming. Development of software for equipment design of various equipments such as Heat exchanger, Evaporator etc., through AutoCAD.

6. ***Chemical Engineering
Labs***

Fluid Mechanics and Mechanical Operations:

Venturimeter, V – Notch Weir, Centrifugal pump, Vacuum leaf filter, Drop weight crusher, Plate and frame filter press, Ball mill, Jaw crusher. Experimental setups for Efflux time, Pipe friction, Laminar flow, Non – Newtonian flow, Settling.

Chemical Reaction Engineering: Batch Reactors, Semi-Batch Reactors, Mixed Flow Reactors, Plug Flow Reactors, Heterogeneous Catalytic Reactors, Adiabatic Reactor, Batch Re-circulation Reactor, Recycle Reactor, Thermoreactor, Photo chemical reactor, Bio chemical reactor, Sono chemical reactor, Electrochemical reactor, Membrane reactor, Residence Time Distribution Studies in PER & CSTR-by STEP & PULSE Response, Multiple Reactors, Reaction Modeling Using CRNT Software.

Heat and Mass Transfer: Experimental setup for Transient State Heat Conduction, Surface Evaporation, Jacketed Kettle, Temperature profile of a rod, Natural Convection, Thermal Conductivity of metal rod, Thermal Conductivity of composite wall, Emissive measurement, Measurement of Diffusion coefficient, Simple distillation, Steam distillation, Leaching, Packed bed distillation column, Air and Vacuum Drying, Adsorption.

Process Dynamics and Control: Micro controller based PID controller for SCADA and other applications, pH Control System, Distributed Control System, PLC based and PC based Flow process Control Analyzer, Level process Analyzer, Temperature process Analyzer, Pressure process Analyzer.

7.	Electrochemical Engineering Labs	<p><u>Industrial Metal Finishing:</u> Anodizing of Aluminium, Analysis of Copper Plating Bath , Analysis of Nickel Plating Bath , Electroforming of Metal Foil, Hull Cell Studies in Electroplating Bath , Throwing Power Studies in Electroplating Bath , Chromium Plating.</p> <p><u>Corrosion Science and Engineering:</u> Corrosion rates measurements, Soil resistivity and surface potential, Electrical resistivity and surface potential, Inhibitor evaluation by gravimetric method, Cathodic protection efficiency by Impressed current Technique, Estimation of Oxygen, chloride and hardness in water samples, Paint formulation.</p> <p><u>Electrochemicals:</u> Deposition of lead dioxide on graphite rod, Preparation of sodium chlorate, perchlorate, hypochlorite from sodium chloride, preparation of succinic acid from maleic acid, preparation of P-Aminobenzoic acid from P-Nitro benzoic acid, electrochemical oxidation of glucose to calcium gluconate, electrochemical preparation of Mn^{3+} in sulphuric acid media.</p> <p><u>Batteries:</u> Physical methods of characterization, porosity by water in titration and theoretical measurement of individual electrode potentials at different current densities, cell voltage measurement from the calibration graph, determination of antimony content by thermometric method in Pb-Sb alloy, discharge characteristics of lead acid battery, determination of electrical resistance of battery separator, determination of apparent density and acid absorption number of battery acid,</p>
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determination of maximum predominant pore size in battery separators.

Electrochemical Material Science: Chemical deposition of lead sulphide films and measurement of resistivity of the deposits for various timings, current voltage characteristics of the given photoconductive cell in darkness and estimation of photosensitivity, intensity-photocurrent characteristics of the given photoconductive cell for different bias conditions, power characteristics of the given silicon at specified intensities, estimation of the diode parameters of a silicon solar cell, preparation of CdSe films by the electrochemical route and determination of the cross plane resistivity, determination of the intensity $\frac{3}{4}$ photo-current characteristics of the given silicon cell, Mott-Schottky plot from capacitance measurements and estimation of the flat-band potential and carrier concentration.

Electrometallurgy: Leaching of calcine, electrowinning of metal zinc, electrolytic preparation of metal powders, standardization of chromel-alumel thermocouple, melting point of salt mixture (cooling curve method), determination of limiting current, determination of velocity constant.

Electrochemical Reaction Engineering: Electrochemical Batch Reactor-Constant Current Operation, Factorial Design for investigating the Current Efficiency of Copper Deposition, Monopolar and Bipolar Cells, Electro chemical Semi Batch

		Reactor, Electrochemical Batch Reactor-Constant Voltage Operation, Continuous Flow Stirred Tank Electrochemical Reactor (CSTER), Axial Flow Electrochemical Reactor (PFER), Packed Bed Reactor-Flow through Configuration, Local Mass Transfer on the Wall of Stirred Tank Reactor.
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Institute's Centralized Facilities

Click the link below for details

<http://www.cecri.res.in/Infrastructure/RDFacilities/Analytical.aspx>

Computing Facilities

The computing facility comprises 50 computer systems of various configurations including server systems, individual PCs, Laptop computers etc.

Number and Configuration of Systems

<i>Number of PC's</i>	50
<i>Total number of systems connected by LAN</i>	50
<i>Total number of systems connected to WAN</i>	--
<i>Internet bandwidth</i>	1 Gbps

<i>Legal System Software</i>	Windows 8, Windows 7, Windows 2003 server, Linux
<i>Legal Application Software</i>	<ol style="list-style-type: none"> 1. VASP 2. Gaussian 3. Origin-8 4. Wiren 2K 5. Maple -12(General purpose Mathematical solver 6. Comfol 7. Matlab 8. Material Studio 9. Comsol Multiphysics 10. Labview 11. Quantum espresso
<i>Printers</i>	HP LaserJet 1022 – 2, HP LaserJet 1200 – 2, HP LJ5200 – 1, HP Line Printer – 1
<i>Scanners & Printer cum Scanner</i>	HP Laser Jet MFP M226dn - 2, Laser Jet M1005 - 1, HP Scan jet 4500,

Workshop facilities

Follow the link below

<http://www.cecri.res.in/Infrastructure/RDFacilities/Analytical.aspx>

List of facilities available

Games and Sports

Hand Ball Court, Shuttle Badminton Court with Flood Light, Ball Badminton Court, Basket Ball Court with Flood Light, Volley Ball Court with Flood Light, Foot Ball ground, Cricket Ground and Net facilities, Table Tennis with Flood Light, Recreational Room with carom Board and Chess.

Canteen facility

There is a Departmental Canteen in our Institute campus

Extra curricular activities

NSS; Yoga Centre; Gymnasium

Technical Forums like, Indian Society for Technical Education (ISTE), Society for Advancement of Electrochemical & Technology (SAEST), Electrochemical Technologists Association (ETA), Cultural and Literary Association (KALA)

Soft skill development facilities	Available
No of class rooms and size of each	4 x 47 sq.m
No of tutorial room and size of each	1 room of 47.32 sq.m
<i>No of laboratories and size of each</i>	Twelve numbers; 936sq.m.
<i>No of drawing halls and size of each</i>	1 Hall,155 sq.m.

No of computer centres with capacity of each	3 Centres having capacity 65,65,68 sq.m. each
Central examination facility	Available

Teaching learning process

Curricula and syllabi for each of the programmes as approved by the university	As per Annexure II (Regulation 2017)
Academic time table	As per Annexure III
Internal continuous evaluation system and place	Three assessment tests are conducted per semester
Students' assessment of faculty, system in place	Through class committee meetings

Special Purpose

Academic calendar and Frame work

June – December (Odd Semester) and December - April (Even Semester)

Research Focus

The Institute is a world-renowned center of excellence in all the fields of Electrochemical Science & with sophisticated instruments, computers and modern facilities spread over 30000 sq.m. of laboratory. CECRI library is a treasure house of books, periodicals, translations and other

documents providing the researchers constantly with the new information. CECRI is also recognized as a centre for Doctoral Research of most of the Indian Universities.

CECRI scientists already have the opportunity of both carrying out research and teaching for the B.Tech programme since 1988. Since, the faculties have sufficient research experience; they could provide better teaching methods, which in turn lead to development of creating better man power in the field of electrochemical engineering with sufficient research background.

List of typical research projects

Industry linkage

CECRI has been taking up lot of sponsored projects/consultancy services to various industries.

Publications

Follow the link below

<http://krc.cecri.res.in/>

Placement Status

Available

Admission Procedure

The admissions are made on merit, through single window, Tamil Nadu Engineering Admission through TNEA (www.annauniv.edu).

Fee structure

As per [Annexure I](#)

Hostel facilities

Hostel facilities are available for both boys and girls

Contact address

Name	Dr.N. Kalaiselvi
Address	CSIR - Central Electrochemical Research Institute Karaikudi 630 003. Tamilnadu,India www.cecric.res.in
Telephone	(04565) 227778
E-mail	director@cecric.res.in