

Cochin University of Science and Technology



Kochi, Kerala-682022

Annual Quality Assurance Report (AQAR) 2010-11

of

Internal Quality Assurance Cell (IQAC)

Submitted to
The National Assessment and Accreditation
Council
Bangalore

Annual Quality Assurance Report (AQAR) of the IQAC

Name of the Institution : COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY
Year of Report : 2010-11

SECTION- A

Plan of action chalked out by the University in the beginning of the year towards quality enhancement

The detailed plans of action of the University for the year 2010-11 are:

- ⌚ To Establish a Centre for Innovation, Technology Transfer and Industrial Collaboration.
- ⌚ To Establish a Centre for Alternate Energy Sources
- ⌚ To Establish Justice V. R. Krishna Iyer Chair for Human Rights
- ⌚ To Establish Inter University Centre for Studies on Kerala Legacy of Astronomy and Mathematics (IUCKLAM)
- ⌚ To Establish M. V. Pylee Chair for Holistic Development of Kochi
- ⌚ To establish Women's Study Centre
- ⌚ To start two new M.Tech programmes- M.Tech Computer Science with Specialization in Embedded System and Electrical with specialization in Power Electronics
- ⌚ University Research Fellowships to be increased from Rs.5000/- to Rs.7500/- per month
- ⌚ University Post Doctoral fellowship to be increased from Rs.10000/- to Rs.12500/- per month

SECTION- B

Details in respect of the following

1. Activities reflecting the goals and objectives of the institution

The University continues to strive to achieve its declared goals and objectives through

- ⌚ Manpower development
- ⌚ Research in emerging areas in Applied Sciences and Technology
- ⌚ Extension activities to the public and to the Government organizations for planning and development.
- ⌚ Industry – Institution interactions
- ⌚ Sharing and transfer of knowledge through Extension activities
- ⌚ Co-operation with national and international agencies
- ⌚ Exchange Programmes

The above stated goals, as stated in previous years reflects the mission and vision goals of this University; specifically, University continues to offers UG and PG courses in Applied Sciences, Humanities, Management and Technology and Research programmes in the needy areas of society.

2. New academic programmes initiated (UG and PG)

- i. M.Tech Computer Science with Specialization in Embedded System
- ii. M.Tech Electrical with specialization in Power Electronics

3. Innovations in curricular design and transaction

New regulations for PhD has been implemented

4. Inter-disciplinary programmes started: Nil

5. Examination reforms implemented:

Course work has been made compulsory for the PhD programme

6. Candidates qualified: NET/SLET/GATE etc. : 45**7. Initiative towards faculty development programme**

The University has organized the following faculty development programmes during the year:

- ⌚ Two days National Workshop on Software Engineering (NCSOFT -2010) was conducted during 24-25 may 2010.
- ⌚ National Workshop on Tools and Techniques in molecular biology and Bioinformatics
- ⌚ ISTE-STTP on Modeling and Optimization techniques in Engineering during Oct 2010
- ⌚ Stimulating Teachers through Advanced Training (STAT) for college teachers on recent trends in Photonics was held from 2010 September 27 to October 01.

8. Total number of seminars/workshops conducted : 34**9. Research projects a) Newly Implemented; b) Completed**

a) Newly Implemented: 38

b) Completed: 43

10. Patents generated, if any: Nil**11. New collaborative research programmes**

Many departments have started collaborative research programmes with agencies in and outside India and sister departments within the University. CUSAT has started collaborative research in the area of Oceanography/ Atmospheric Science with Nansen Environmental and Remote Sensing Centre, Norway (NERSC) and Nansen Environmental Research Center India (NERCI)

12. Research grants received from various agencies

Agency	Amount in Rs. (lakhs)
State Government	644.00
UGC	261.73
Other GOI Sources	544.75
Others	142.13
Total	1592.61

* Other GOI Sources include institutions like MoES, MHRD, NSC, DST, DOE,DAE, DOD, CSIR, ICAR, DRDO, IUAC, ICMR, ICSSR, Dept of Space, Coir Board(B), Central Water Commission, DBT, MEF, AICTE, MPEDA, ISRO,IUC-DAEF

** Others include STED, IRELTDC, NZAID, European Commission and EMRE, UK

13. Details of Research Scholars

No of Full Time Research Scholars: 412

No of Part Time Research Scholars: 407

14. Citation index of faculty members and impact factor : as reflected on CUSAT web site

15. Honors/Awards to the faculty: National and International

No	Name of the Faculty member	Department/ School	Nature of Award/Honor and Agency
1	Dr.S.Bijoy Nandan	Marine Biology, Microbiology and Biochemistry	Elected Fellow of the National Institute of Ecology (NIE) for significant research contribution in the field of ecology and environment
2	Dr.A.A.Mohamed Hatha	Marine Biology, Microbiology and Biochemistry	Fulbright-Nehru Visiting Lecturer Fellowship of US Govt.
3	Dr. B. Madhusoodana Kurup	School of Industrial Fisheries	Appointed as the Vice-Chancellor of Kerala University of Fisheries and Ocean Studies
4	Dr.S.Mrudula	School of Engineering	The best paper award in the International Conference held at Florida, USA.
5	Dr. Thomas Kurian	Polymer Science and Rubber Technology	JSPS Bridge Fellow - Dept. of Polymer Science and Engineering, Yamagata University, Japan (2010 March 15 - May 13).
6	Dr K.P.Vijayakumar	Physics	JSPS (Japan) Invited Scientist in the Department of Electrical and Electronic Engineering, Iwate University, Morioka, Japan.
7	Dr.P.Mohanan	Department of Electronics	Dr.S.Vasudev award, the award constituted by the Kerala State Government
8	Dr.Saleena Mathew	School of Industrial Fisheries	Shiksha Rathan Puraskar

16. Internal resources generated

The total amount generated internally during 2010-11 is **Rs. 21.23 Crores**

17. Details of departments getting assistance/ recognition under SAP, COSIST (ASSIST)/ DST, FIST and other programmes

Schools/ Departments got assistance under SAP during the year is Department of Applied Chemistry

Schools/ Departments got assistance under DST-FIST during the year are School of Industrial Fisheries (2010-2014- Level-I) and Dept of Marine Biology, Microbiology and biochemistry (2010-2014- Level-I)

18. Community services

- ⌚ The University celebrated World Environment Day on 5th June 2010 with a variety of events including planting tree saplings and conducting seminar on the theme “Many Species, One Planet, One Future”. As part of the programme, the CUSAT community united under the auspices of Department of Youth Welfare and planted herbal tree saplings in the west inclined area of University ground. Tree saplings were planted in different places of the campus including hostels and Departments.
- ⌚ The Department of Youth Welfare organized a programme “**GREEN ROOM – Cultivating Creativity**”, for the purpose of increasing creativity, self confidence, competence and compassion among selected students
- ⌚ The Department of Physics organized an open house programme on 2011 January 14 and 15 for the students and teachers of the state in order to provide a platform for interaction
- ⌚ University Employment Information and Guidance Bureau, CUSAT provides classes on Career Guidance, Higher Study Options and other career related information to students and general public, besides conducting coaching classes for UGC/ C S I R - N E T / J R F Examinations.
- ⌚ The Department of Culture and Heritage of CUSAT had conducted vacation classes in Communicative English, Communicative Italian and Communicative German, for High School Students and House wives.
- ⌚ The Department of Youth Welfare, Cochin University of Science and Technology has organized a four day programme, ASPIRE - skill development programme for students to build confidence, compassion and creativity among students through doing and learning from 12th to 15th February, 2011. Fifty students from various departments / recognized institutes / colleges were participated in the programme.

- ⌚ The Centre for Science in Society of the University (C-SiS) conducts the following programmes for school children

a) One Day Attachment Programme (ODAP)

b) Science Talent Development Programme (STDP)

19. Teachers and officers newly recruited

Teaching staff recruited : **1**

Non-teaching staff recruited: **58**

20. Teaching – Non-teaching staff ratio

266:768

21. Improvements in the library services

Access to Science Direct 10 subjects’ collection (900+journals titles) is enabled under UGCINFONET Digital Library Consortium

22. New books/journals subscribed and their value

Books	Amount	Journals			Amount
		Online Data Base	Foreign	Indian	
2116	55 lakhs	5	132	47	60 lakhs

23. Courses in which student assessment of teachers is introduced and the action taken on student feedback : continues with all courses

24. Feedback from stakeholders : continues to be positive

25. Unit cost of education : Rs. 1,30,682

26. Computerization of administration and the process of admissions and examination results, issue of certificates : Process Ongoing

27. Increase in the infrastructural facilities

- ⌚ A new examination block has been set up in the University
- ⌚ CUSAT Medical clinic was revamped to ensure the health care of the whole University community.
- ⌚ A Ship-in-Campus has been built in K M School of Marine Engineering
- ⌚ The University main road has been modernized

28. Technology up-gradation

In addition to the normal up-gradation of computer, several departments have expanded their ICT facilities by incorporating the latest technological knowledge available.

29. Computer and internet access and training to teachers, non-teaching staff and students

Internet access has been made available to the students and faculty of all departments. The Computer Centre (CIRM) of the University has been running periodic courses for the University teaching and non-teaching staff.

30. Financial aid to students

- ⌚ University is providing Research Scholarships to 150 students with an amount of Rs. 7500 and Rs.9000 per month respectively for Junior Research Fellows and Senior Research Fellows with a contingent grant of Rs.10000 per annum
- ⌚ University is also providing Scholarship to M.Phil students @ Rs 1000/- per month
- ⌚ University is also providing Post Doctoral Fellowships @ Rs.12500/- per month , with a contingent grant of Rs.20000 per annum
- ⌚ Merit scholarships are there for the meritorious students @Rs.1200/- per annum

31. Activities and support from the Alumni Association

All departments continue and promote individual Alumni activities in addition to contributing to the recently launched University Alumni Association. These Alumni regularly conduct seminars, workshops and training programmes in addition to the annual get together. University Instituted endowment “CLASSIC- 83” in the Dept of Polymer Science and Rubber Technology with the support from the Alumni 1983 stands operational.

32. Activities and support from the Parent-Teacher Association

Parent-Teacher Association continues to meet annually. Suggestions and feedback from parents are positively welcomed; In association with the PTA of UG departments the **Students Academic Information System** [<http://wais.cusat.ac.in/index.php>]- publishes results of students, which can be

accessed by all parents. Suitable remedial measures are implemented based on feedback.

33. Health services

The University Health Centre continues to provide health related support to the University Community. Medical camps for staffs and students are encouraged. Department of Youth Welfare, had organized an eye care programme in the University for the University staff and students to check their eye related issues at free of cost.

34. Performance in sports activities

The CUSAT Inter-Collegiate Tournament and Athletic Meet 2010-11 was held at Cochin University Main Campus in the first week of February 2011. All teaching Departments in CUSAT; School of Engineering, CUSAT; CUCEK, Pulinkunnu and 26 recognized institutes / colleges have participated in 12 games and 25 athletic events.

35. Incentives to outstanding sportspersons : as in previous years,

- ⌚ Duty leave facility for sports coaching/participation
- ⌚ TA/DA for participation in tournaments
- ⌚ Uniforms for participating in tournaments,
- ⌚ Recognition certificates
- ⌚ Equal opportunities to deserving students
- ⌚ Leadership roles for active sportsmen

36. Student achievements and awards

Name of Student	Department	Details of honor / awards
Deepthi Das Krishna	Electronics	Young Scientist Award at 20 th International Seminar on Electro Magnetic Theory by International Union of Radio Magnetic Science at Germany (September 2010)
Alok Kumar Jha	Photonics	2nd Satish John memorial Award by Photonic Society of India
Anna Dilfi K.F & Abhilash G.	PS&RT	Best Poster Award in the Indian Science Congress, 2010, Thiruvananthapuram
Ms.Sreeshna T	Atmospheric Sciences	Best student in non sponsored category in the National Level Training programme on Concepts of Nowcasting and Mesoscale Disturbances (CONMED 2011).
Sasanka Kumar S	Physics	Z.H Sholapurwala Award for fusion research-2010

37. Activities of the Guidance and Counseling unit

The University Employment Information and Guidance Bureau conducts periodic training programmes, as mandated earlier, to equip students face a variety of

competitive examinations like UGC NET, Bank Examinations etc. Also the centre provides career talks and individual guidance to students.

38. Placement services provided to students

Placement service provided to students from training and placement cell of the University are

No. of companies visited: 34

No. of job offers: 610

No. of students placed: 532

CUSAT got significant achievement in Campus placement during the year 2010-11, placing about 70% of B.Tech Students who got qualified with necessary requisites. Most of these placements were in Blu-Chip companies and major Public Sector Organizations. All the qualified students of B.Tech Marine Engineering could be placed in Elite Shipping Companies In land and abroad. Similar is the case of all the qualified students of B.Tech Polymer Science and Rubber Technology and B.Tech Ship Technology. In addition to these the individual PG departments conduct campus recruitments.

39. Development programmes for non-teaching staff

The University conducts training programmes on regular intervals to non-teaching staffs to empower their administrative and computer skills

40. Good practices of the institution

- ⌚ The University follows credit system for all UG and PG programmes – as followed in previous years.
- ⌚ The University has developed a very effective, transparent and rigorous internal mechanism to assess the cognitive ability of students and research scholars as well as to ascertain the level of knowledge, intelligence and articulation they have acquired over time, as initiated in the previous year.
- ⌚ The university had introduced 100% internal assessment for higher post graduate programmes and this has been welcomed by students. The results are declared on time.

- ⌚ Maximum transparency in evaluation process stands ensured.
- ⌚ Teaching-learning process follows a well-planned calendar of events.
- ⌚ The University continues to conduct an all India level Common Admission Test.
- ⌚ The University continues and promotes academic links and exchange programmes with several Institutions/Universities in almost all Continents of the globe.

41. Linkages developed with National/ International, academic/research bodies

Many departments have continued their linkages with many national and international agencies through collaborative research programmes, research projects and consultancy services. The ongoing activities, commence later year are

- ⌚ The School of Industrial Fisheries have collaborative research with University of Barcelona, Spain and University of Southern Denmark, Denmark,
- ⌚ Kunjali Marikkar School of Marine Engineering have regular contact and communication with Directorate General of Shipping, Mumbai, Institute of Marine Engineers (India), Cochin branch and Mercantile Marine Department, Cochin to update with regard to the latest developments in Marine Engineering in particular and Seafaring in general.
- ⌚ The activities of Dept of Statistics with Prof. Isha Dewan, Indian Statistical Institute, Kolkata is still on.
- ⌚ Dept of Mathematics continues linkages through collaborative research with University of Central Florida

42. Action Taken Report on the AQAR of the previous year :

Review indicates positive gains for the University in having achieved compliance of proposed actions for the current year.

43. Any other relevant information the institution wishes to add.

- ⌚ CUSAT conferred Honorary Doctorate degree on Justice K. G. Balakrishnan, Chairman, National Human Rights Commission (& former Chief Justice of India), Padmavibhushan Dr. E. Sreedharan, Managing Director, Delhi Metro Rail Corporation & Padmabhushan Shri. Kalamandalam Ramankutty Nair, renowned Kathakali Artist.
- ⌚ During this year, the university has awarded 114 PhD Degrees.
- ⌚ A lecture series (50 lectures) on Laser was conducted as part of the celebration of 2010 as the World Laser Year.

- ⌚ CUSAT could conduct a series of Lectures as part of the Erudite Programme (Scholars in Residence Programme).

SECTION- C

Outcomes achieved by the end of the year

- ⌚ The Inter University Centre for IPR studies got membership in the consortium named OSDD (Open Source Drug Discovery), constituted by CSIR. This project aims at developing a scheme of treatment against the deadly contagious diseases, spreading across the under developed countries.
- ⌚ Ministry of Science and Technology, Govt of India has Sanctioned the project to set up a Stratosphere-Troposphere (ST) radar at Cochin University of Science and Technology, with a total project cost of 20 Crores.
- ⌚ Established a Centre for Innovation, Technology Transfer and Industrial Collaboration, Centre for Alternate Energy Sources AND Centre for Advanced Materials(CAM)
- ⌚ Established Justice V. R. Krishna Iyer Chair for Human Rights
- ⌚ Established Inter University Centre for Studies on Kerala Legacy of Astronomy and Mathematics (IUCKLAM)
- ⌚ Centre for Women's studies was established in CUSAT using the financial assistance from UGC.
- ⌚ CUSAT got significant achievement in Campus placement during the year 2010-11, placing about 70% of B.Tech Students who got qualified with necessary requisites. Most of these placements were in Blu-Chip companies and major Public Sector organizations. All the qualified students of B.Tech Marine Engineering could be placed in Elite Shipping Companies In land and abroad. Similar is the case of all the qualified students of B.Tech Polymer Science and Rubber Technology and B.Tech Ship Technology .
- ⌚ Started two new M.Tech programmes- M.Tech Computer Science with Specialization in Embedded System and Electrical with specialization in Power Electronics
- ⌚ University Research Fellowships is increased from Rs.5000/- to Rs.7500/- per month

- ⌚ University Post Doctoral fellowship is increased from Rs.10000/- to Rs.12500/- per month

SECTION- D

Plans of the University for the next year

- ⌚ To start two new programmes – M Sc Instrumentation and M. FSc. seafood Safety and Trade
- ⌚ To start the Nansen Fellowship program which is jointly offered by Nansen Environmental and Remote Sensing Centre, Norway (NERSC), Nansen Environmental Research Center India (NERCI), and CUSAT

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