PEER TEAM REPORT ON
Institutional Accreditation of
Cochin University of Science and Technology
Place : KOCHI Pin: - 682022, State: KERALA

Section I: GENERAL	Information
1.1 Name & Address of the Institution:	COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY, KOCHI-682002, KERALA
1.2 Year of Establishment:	1971
1.3 Current Academic Activities at the Institution (Numbers):	
• Faculties/ Schools:	8: Science, Social Science, Marine Sciences, Engineering, Technology, Law, Environmental Studies, Humanities
• Departments/ Centres:	Science: 5, Social Science: 2, Marine Sciences: 6, Engineering: 3, Technology: 7, Law: 1, Environmental Studies: 1 and Humanities: 2 **Total: 27**
• Programmes/ Courses offered:	UG: 14 ; PG: 51, Integrated PG: 1 M.Phil.= 0 9, Ph.D. =26 Integrated Ph.D. =2, Others=18 Total: 121
• Permanent Faculty Members:	Male: 169; Female: 80; Total: 249
• Permanent Support Staff:	Male: 370; Female: 325; Total: 695
• Students:	Male: 5259; Female: 2792; Total: 8051
1.4 Three major features in the Institutional Context (As perceived by the Peer Team):	• Vision for Excellence towards a Unitary Institution of National Importance • ST-RADAR- a programme recognized under the 'Make in India' Mission of the Govt. of India • Marine Sciences, Marine Engineering and Photonics, Disciplines in the University that have excelled at the National Level
1.5 Dates of visit of the Peer Team (A detailed visit schedule may be included as Annexure):	29th August to 1st September, 2016 (Annexure attached)
1.6 Composition of the Peer Team which undertook the on- site visit:	
Chairperson	**Dr. Subbanna Ayyappan** Former Secretary, DARE & Director General, ICAR; NABARD Chair Professor, ICAR-NDRI, Southern Regional Station, Adugodi, Bengaluru-560 085, Karnataka

Members	**Dr. Satish Ramanath Shetye** Former Director, National Institute of Oceanography & Former VC, Goa University, Goa
	Prof. Dr M R Pranesh Former Professor of Ocean Engineering I.I.T. Madras, Chennai, Former Principal, REC, Suratkal, Karnataka
	Prof. V. K. Mahna Former Professor of Mechanical Engineering and Dean, DCE Former Jt. Secretary Govt. of India and Director Examination Reforms, UPSC, New Delhi
	Prof. Karmeshu Professor & Former Dean, School of Computer and Systems Science, Jawaharlal Nehru University, New Delhi
	Prof. Muthukalingan Krishnan UGC- BSR Faculty Fellow Dept. of Environmental Biotechnology Bharathidasan University, Tiruchirappalli
	Dr. N.P. Shukla Former Chairman, Madhya Pradesh Pollution Control Board, Bhopal, M.P.
	Prof. D. N. Jauhar Former Vice Chancellor, Dr. B. R. Ambedkar University, Agra & Former Professor and Chairperson, Department of Laws, Panjab University, Chandigarh
	Prof. S. K. Singh Professor (Former Dean & Head), Institute of Management Studies, Banaras Hindu University, Varanasi – 221005, Uttar Pradesh
NAAC Officer:	**Dr. Sujata P. Shanbhag** Deputy Adviser, National Assessment and Accreditation Council (NAAC), Bengaluru

2

Section II: CRITERION WISE ANALYSIS	Observations (Strengths and/or Weaknesses) on Key-Aspects *(Please limit to three major ones for each and use telegraphic language (It is not necessary to indicate all the three bullets each time; write only the relevant ones)*
2.1 Curricular Aspects:	
2.1.1 Curriculum Design and Development:	• Uses the model criteria of the various professional councils • Has a flexible mechanism with feedback from stakeholders • Nomenclature of Degrees to be reviewed in the view of 2014 UGC Notification
2.1.2 Academic Flexibility:	• Courses are offered in modular form • Maximum of 24 credits per semester with full transfer facility of credits • CBCS for all PG programmes
2.1.3 Curriculum Enrichment:	• Curriculum is revised once in 4 years for U.G and 3 years for PG, respectively • All courses are revised in last 4 years • Limitations of formal class room education system is overcome by skill development programme
2.1.4 Feedback System:	• Valuable advice from Noble Laureates and opinions from experts are included in course upgradation • Feedback from Students to be collected regularly, analysed and implemented • Academic audit to be made more effective

3

2.2 Teaching-Learning & Evaluation:	
2.2.1 Student Enrolment and Profile:	• Common admission test on all India basis • All communications through website and transparency in admission process • Small section of the students are from outside the state
2.2.2 Catering to Student Diversity:	• 2-3 days orientation programme for engineering students • Equal opportunity cell offers remedial / bridge courses for a few subjects • Limited study has been done for the academic growth of slow learners
2.2.3 Teaching-Learning Process:	• Teachers are given freedom to evolve methods of teaching based on course content • E-resources are used in teaching through a dedicated server • UG/PG/M.Phil. has mandatory project work
2.2.4 Teacher Quality:	• Inbreeding of faculty is about 50 percent • Inadequate qualified teachers among contract faculty and 50 percent are on contract • FDP Programme is limited • Adjunct faculty appointment initiative appreciated
2.2.5 Evaluation Process and Reforms:	• Department Councils act as grievance cells regarding examination • Review the evaluation process with due incorporation of new technology • Delay in announcement of examination results • Streamlining the functioning of CBCS
2.2.6 Student Performance and Learning Outcomes:	• ICT techniques are used for advanced learning • Exclusive window has been created for monitoring students performance • The Erudite programme by Government of Kerala is implemented
2.3 Research, Consultancy & Extension:	
2.3.1 Promotion of Research:	• University encourages establishment of specific research centers • Researchers of eminence are invited to interact with faculty and students • Quality of Research in Engineering and Social Sciences to be enhanced
2.3.2 Resource Mobilization for Research:	• University encourages filing of patents: an exclusive IPR cell has been created; 12 filed and 2 awarded

	• 12 departments are under UGC –SAP and 16 are under DST- FIST • PURSE recognition • Efforts for resource mobilization to be scaled up
2.3.3 Research Facilities:	• CIRM has been established by the Netherlands Government • STIC has been accredited by NABL • Specialized research facilities have been created e.g. ST Radar • Under-utilization of facilities
2.3.4 Research Publications and Awards :	• Institution has introduced anti-plagarism software to check theses • Interdisciplinary and interdepartmental research needs to be encouraged • Research publications in Engineering and Social Sciences inadequate
2.3.5 Consultancy:	• The institution has in place a policy for consultancy • Greater efforts needed in consultancy from all Departments • The university to publicize the available expertise for consultancy
2.3.6 Extension Activities and Institutional Social Responsibility:	• Regularly conducts social outreach programme through Centre for Science in Society, an Excellent facility for popularization of science • A welcome attempt has been made to inculcate the entrepreneurship through CITTIC • NSS activities need to be strengthened
2.3.7 Collaboration	• Activities under the MoUs need to be strengthened and followed up • Some departments have succeeded in creating productive collaboration • Technology Business incubator has been established recently

2.4 Infrastructure and Learning Resources:

2.4.1 Physical Facilities:	• The University has adequate facilities for effective teaching-learning • Additional facilities such as auditorium

	• gymnasium, etc. are available • On campus medical services need to be strengthened in all the three locations, including ambulances • Facilities for differentially abled, such as ramps to be enhanced
2.4.2 Library as a Learning Resource:	• Adequate physical infrastructure, such as reading rooms, internet, etc. are available • Library resources are augmented every year • Regular librarian needs to be appointed • Facilities for visually impaired to be provided
2.4.3 IT Infrastructure	• Learning resources available are NPTEL, MOOC, D-Space, KOHA, Media Servers, etc. • Computing facilities and internet with Wi-Fi connectivity need improvement • CIRM provides staff training, user support to departments
2.4.4 Maintenance of Campus Facilities:	• Maintenance is adequate, but requires greater attention at Kuttanad campus • Campus security is adequate • For preventive and breakdown maintenance of the equipment, trained technical staff are deployed
2.5 Student Support and Progression:	
2.5.1 Student Mentoring and Support:	• Students appeared satisfied with the support provided by the university • Grievance Redressal and anti ragging mechanism is in place • About 35% students receive fellowship from various organizations
2.5.2 Student Progression:	• Good number of students clear national competitive examinations such as NET/GATE • Progression of students from UG to PG is around 29 percent and PG to Ph. D. is 30 percent. • Percentage of drop-outs appeared negligible
2.5.3 Student Participation and Activities:	• Feedback from students for planning developmental activities needs to be encouraged • Weightage given to deserving students for participating in sports and other extracurricular activities

	• Limited prizes and awards have been won in co-curricular activities • Various academic and administrative bodies have student representatives
2.6 Governance, Leadership and Management:	
2.6.1 Institutional Vision and Leadership:	• Vision and mission statements are in tune with National objectives • The University aims at becoming a centre of national importance in Science and Technology • The University does not yet have in place adequate mechanism to attract faculty to ensure excellence in science and technology
2.6.2 Strategy Development and Deployment	• The institution has a well defined organizational structure with effective process for developmental activities • The University needs to develop realistic strategy for campus development in particular Lake-Side and Kuttanad campuses • A clear strategy for faculty development needed
2.6.3 Faculty Empowerment Strategies:	• Faculty career advancement is based on Performance Based Appraisal System • Power delegation to Principal Investigators appreciated • Expertise of eminent retired faculties are utilized through adjunct faculty scheme
2.6.4 Financial Management and Resource Mobilization:	• Pre-audit wing of the university and local fund audit wing of Kerala Govt., Principal AG (audit) performs audit regularly • A financial gap exists between Income & Expenditure with expenditure is more than income • There is no provision to create a corpus fund

7

2.6.5 Internal Quality Assurance System:	- The University ranked 30 in NIRF conducted by MHRD - All seven B.Tech. programmes of School of engineering is accredited by NBA - IQAC needs to enhance its activities (e.g. periodical collection, analysis and follow up of Student feed back- course wise and self appraisal reports of Faculty) - IQAC needs to be given permanence
2.7 Innovations and Best Practices:	
2.7.1 Environment Consciousness:	- The main campus is eco friendly but other campuses need development - The plan to generate 1 MW solar power for ST-RADAR is welcome - E- waste management needs encouragement
2.7.2 Innovations:	- Establishment of CITTIC and TBI is welcome - Focus on IPR is encouraging - Creation of a facility like ST RADAR bears promise
2.7.3 Best Practices:	- Conduct of National Examination for Admission - Effort to popularize science and technology through CSiS - Provision of funds for young researchers as a start-up grant
Section III: OVERALL ANALYSIS	*Observations (Please limit to five major ones for each and use telegraphic language) (It is not necessary to denote all the five bullets for each)*
3.1 Institutional Strengths:	- Main campus is green and clean - Good infrastructure for teaching – learning and Research - Specialized laboratories with funding from different organisations - Students' representation in various decision making bodies
3.2 Institutional Weaknesses:	- Only fifty percent of sanctioned faculty in place - Quality of research, specially in Engineering and Social Sciences - Lack of maintenance at Kuttanad campus

	• Financial Resources not stable • Faculty does not generate adequate resources through consultancy and services
3.3 Institutional Opportunities:	• Has the potential to become the foremost National Centre for Education in Oceanography and Marine Engineering • Potential exists to increase annual intake of students, along with diversity • Locational advantage of the University: Marine bioresources, Coastal ecosystem and Monsoon Tourism
3.4 Institutional Challenges:	• Recruitment of permanent faculty to maintain standards and achieve the goal of becoming a Centre of Excellence • Developing a stable financial resource base to sustain growth • Manage three campuses with uniform goal of achieving excellence

Section IV: Recommendations for Quality Enhancement of the Institution

*(Please limit to **ten major ones** and use telegraphic language)*
(It is not necessary to indicate all the ten bullets)

- Recruitment of regular faculty, with special emphasis on Engineering, Languages and Social Science departments, to ensure sustained growth towards excellence

- Stabilization of resource base of the University by enhancing resource generation and Inter-Departmental collaboration and cooperation

- Harness the locational advantage to make the University, a Centre of National Importance in Marine and Atmospheric Science and Marine Engineering, with due support in terms of Research Vessel, Girls' Hostel

- Enhancement of Residential facilities for students and faculty to make the campuses for vibrant research and learning activities

- Manpower planning for the next ten years in all Schools for a proper mentoring and sustaining research and consultancy efforts

- Formulate mechanism for sharing of institutional charges from Extramural projects to the non-teaching staff

- Efforts for enhancing analytical ability of the Engineering students through new programmes in Mathematical Sciences

9

- Double entry accounting system to be practised instead of the present single entry system and single answer book in examination

- Facilities for differentially abled to be provided at all locations and promotion of sports

- Efforts to be made to create a Corpus Fund for financial sustainability

I agree with the Observations of the Peer Team as mentioned in this report.

Place: Kochi

Date: 1 September, 2016

Signature of the Head of the Institution

Seal of the Institution

Dr. J. LETHA
Vice-Chancellor
Cochin University of Science and Technology
Kochi - 682 022, Kerala

Signatures of the Peer Team Members:

Name	Designation	Signature with date
Dr. Subbanna Ayyappan	Chairperson	
Dr. Satish Ramnath Shetye	Member	S. R. Shetye 1.9.16
Prof. Dr. M R Pranesh	Member	M. R. Prav 19-16
Prof. V.K. Mahna	Member	01/09/16
Prof. Karmeshu	Member	19.16
Prof. Muthukalingan Krishnan	Member	01/09)16
Dr. N.P. Shukla	Member	1.09.16
Dr. D.N. Jauhar	Member	1/9/16
Prof. S.K.Singh	Member	1/9/2016
Dr. Sujata P. Shanbhag	NAAC Officer	Shanbhag 1/9/16

Place: Kochi

Date: 1 September, 2016

10