COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY
INTERNAL QUALITY ASSURANCE CELL

ANNUAL QUALITY ASSURANCE REPORT

2017-18

Submitted to

**NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL
[NAAC]
BANGALORE**

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BANGALORE**

CHANCELLOR

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REGISTRAR

PROF. (DR.) S. DAVID PETER

DIRECTOR, IQAC

PROF. (DR.) K. GIRISH KUMAR

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ANNUAL QUALITY ASSURANCE REPORT (AQAR)

2017-18

All NAAC accredited institutions will submit an annual self-reviewed progress report to NAAC, through its IQAC. The report is to detail the tangible results achieved in key areas, specifically identified by the institutional IQAC at the beginning of the academic year. The AQAR will detail the results of the perspective plan worked out by the IQAC. *(Note: The AQAR period would be the Academic Year. For example, July 1, 2012 to June 30, 2013)*

Part – A

1. DETAILS OF THE INSTITUTION

1.1 Name of the Institution

> COCHIN UNIVERSITY OF SCIENCE AND TECHNOLOGY

1.2 Address Line 1

> Cochin University P.O

Address Line 2

> Kochi

City/Town

> Ernakulam

State

> Kerala

Pin Code

> 682022

> registrar@cusat.ac.in

Contact Nos.

> 0484-2575396

| Name of the Head of the Institution: | Dr. R. Sasidharan |

| Tel. No. with STD Code: | 0484-2577619 |

| Mobile: | 9447052840 |

| Name of the IQAC Co-ordinator: | Dr.K.Girish Kumar |
| Mobile: | 09847363660 |

| IQAC e-mail address: | iqaccusat@gmail.com |

| **1.3 NAAC Track ID** | KLUNGN10039 |

| **1.4 NAAC Executive Committee No. & Date:** | EC(SC)/17/A&A/98.2 dated16/09/2016 |

| **1.5 Website address:** | www.cusat.ac.in |

| **Web-link of the AQAR:** | http://iqac.cusat.ac.in |

1.6 Accreditation Details

Sl. No.	Cycle	Grade	CGPA	Year of Accreditation	Validity Period
1	1st Cycle	Three Star	-	2001	2006
2	2nd Cycle	A	3.09	2016	2021

| **1.7 Date of Establishment of IQAC :** | 10/04/2007 |

| **1.8 AQAR for the year** | **2017-18** |

1.9 Details of the previous year's AQAR submitted to NAAC after the latest Assessment and Accreditation by NAAC ((*for example AQAR 2010-11submitted to NAAC on 12-10-2011*)

AQAR 2016-17 submitted to NAAC on 08-03-2018 (Latest assessment by NAAC was done on September 2016)

1.10   Institutional Status

University:	State ✓	Central	Deemed	Private	
Affiliated College	Yes	No ✓			
Constituent College	Yes	No √			
Autonomous college of UGC	Yes	No √			
Regulatory Agency approved Institution	Yes √	No			
Type of Institution	Urban √	Rural	Tribal		
Co-education	Men √	Women √			
Financial Status	Grant-in-aid √	UGC 2(f) √	UGC 12B √	Grant-in-aid + Self Financing	Totally Self-financing

1.11 Type of Faculty/Programme

Arts	
Science	√
Commerce	
Law	√
PEI (Phys Edu)	
TEI (Edu)	
Engineering	√
Health Science	
Management	√
Others (Specify)	√
Environmental Studies	√
Humanities	√
Marine Sciences	√
Social Sciences	√
Technology	√

1.12 Name of the Affiliating University *(for the Colleges)*

Not Applicable

1.13 Special status conferred by Central/ State Government-- UGC/CSIR/DST/DBT/ICMR etc

Autonomy by State/Central Govt./University [ ]

University with Potential for Excellence [ ]   **UGC-CPE** [ ]

DST Star Scheme [ ]   **UGC-CE** [ ]

UGC-Special Assistance Programme [✔]   **DST-FIST** [✔]

UGC-Innovative PG programmes [✔]   **Any other** (*Specify*) [DST-PURSE]

UGC-COP Programmes [ ]

2. IQAC Composition and Activities

2.1 No. of Teachers | 13 |

2.2 No. of Senior Administrative Officers | 3 |

2.3 No. of students | 0 |

2.4 No. of Management representatives | 4 |

2.5 No. of Alumni | 1 |

2. 6 No. of any other stakeholder and | - |

community representatives

2.7 No. of Employers/ Industrialists   1

2.8 No. of other External Experts   1

2.9 Total No. of members   23

2.10 No. of IQAC meetings held   :   10

2.11 No. of meetings with various stakeholders: No. 3   **Faculty** 2

   Non-Teaching Staff 1   **Students** -   **Alumni** -

   Others -

2.12 Has IQAC received any funding from UGC during the year? Yes ☐   No ✓

   If yes, mention the amount   -

2.13 Seminars and Conferences (only quality related)

   (i) No. of Seminars/Conferences/ Workshops/Symposia organized by the IQAC

Total Nos. 3   International 0   National 0   State 1   Institution Level 2

   (ii) Themes

   Sathryaan-CUSAT Open House-Extend the research outcomes of the university beyond the confines of academia and make it accessible to the larger community.

2.14 Significant Activities and contributions made by IQAC

1.	**Conduct of Academic Audit** The IQAC has conducted the academic audit of various University departments/schools in 2017-18 to review the quality of academic processes in the University. The IQAC has developed criteria for the audit as per guidelines of NAAC. The process involved self-study by the departments and assessment by the experts from the relevant fields. The academic audit has given the University an opportunity to examine every aspect of teaching learning process as well as research activities of each department in detail. The Academic Audit Report which is an exhaustive study result of all aspects of academic activities in the departments including teaching learning to evaluation, student support to progression, research to extension has been published and placed before Syndicate, the supreme statutory body of the university. The report has also been published in the website of University ***http://iqac.cusat.ac.in/Web/academicaudit*** .
2.	**Student Feedback System** The IQAC has developed an online feedback system for collecting feedback from students in accordance with the guidelines of NAAC. The students of the University can directly give feedback using this web portal. The departments analyse the feedbacks and take necessary corrective measures.
3.	**Vision Plan** A Vision Plan comprising academic – cum - research plan for 15 years has been prepared by the IQAC and the theme of academic and research evolve around the concepts of inter-, multi-, intra-, and trans- disciplinary in nature. The plan has been prepared on the basis of the brain storming sessions held with two eminent academic experts Dr.V.N. Rajasekharan Pillai, President, Mewar University and Dr.Damodar Acharya, Former Director, IIT, Kharkpur during 09/11/2018 to10/11/2018 and 14/11/2018 to 15/11/2018 respectively.

4.	**Institution of Chancellor's Chair**
	The ***Chancellor's Chair Scheme*** has been instituted in the University to engage eminent scientists/ academicians from foreign universities having rank, preferably, within 200 in the world university ranking as Chancellor's Chair Professors. The scheme is being implemented and conducted under the realm of IQAC. An amount of Rs.2,50,00,000/- (Rupees Two Crores and Fifty Lakhs only) of Chancellor's Award prize money has been earmarked for this scheme.
	This scheme make possible the presence of eminent academicians from world renowned institutes in the campus for at least one month and the faculty members, scholars and students of the University get an opportunity to interact with them.
	The Chair Professor should offer at least one course in the University Department preferably with an interdepartmental nature so that students from other University Departments also can attend the course.
5.	**Distinguished Young Faculty Award & Distinguished Researcher Award**
	The "Distinguished Young Faculty Award" and "Distinguished Researcher Award" has been instituted for honouring the faculty members and research scholars respectively of the University who are contributing significantly to the teaching and research of the University every year. The award consists of a certificate of appreciation and a financial incentive, utilizing the prize money of Chancellor's Award. An amount of Rs.50,00,000/- (Rupees Fifty Lakhs Only) is set apart for this which would be deposited as corpus fund and interest earned shall be utilized for this purpose. This scheme is implemented and coordinated by the IQAC.
6.	**Institution of Virtual Centres**
	Five new virtual centres have been instituted in the University to promote interdisciplinary research, as per the academic and research plan prepared by IQAC. They are,
	The University has instituted the five new virtual centres to promote interdisciplinary

	research, as per the academic and research plan prepared by IQAC.
	• Virtual Centre for Advanced Research in Basic Science
	• Virtual Centre for Advanced Research in Engineering Science and Technology
	• Virtual Centre for Advanced Research in Scientific Computing
	• Virtual Centre for Advanced Research in Marine Sciences
	• Virtual Centre for Advanced Research in Humanities and Social Science
	More than seventy interdisciplinary research groups are identified under these centres. Each virtual centre has individual coordinators and Director, IQAC is the overall Coordinator.
7.	**Sasthrayaan- CUSAT Open House Programme**
	IQAC has been started conducting Sasthrayaan-CUSAT Open House Programme since 2017 (on 20th and 21st January 2017). This was the first of its kind conducted in the State and won appreciation from all corners of the society. Shri. Prakash Javadekar, Union Minister for Human Resources Development *congratulated the University for this Innovative Project 'Sasthrayan'.*
	In 2018 (on 27th and 28th February 2018) the programme has conducted with the support of RUSA and Govt. of Kerala. The University doors were opened to school/ college students and public during the days. In this open house, the existing research facilities of social relevance under different faculties such as Engineering, Science, Marine Science, Social Science etc. were highlighted. A series of programmes such as exhibition stalls to showcase the outputs of university departments, project/quiz competition for school as well as college students, colloquium, public lecture series, visit to research centres/ extension centres etc. also were arranged.
8.	**Development of Data Acquisition Web Portal**
	IQAC has been actively engaged in collection and processing of data regarding teaching, learning and research conducted across all departments/schools/centers and other auxiliary bodies, which are used for making policy decisions and for taking quality enhancement initiatives.
	In order to improve the quality, completeness and correctness of data, IQAC has engaged in developing a data acquisition web portal so that the report generation becomes highly

	effective.
9.	**Reorganization of courses / syllabi** The IQAC has been instrumental in syllabus revision for the past three to four years. Deans of all faculties, Chairmen of all Board of Studies and Heads of all Departments have been informed to take necessary action to revise the syllabi of all courses periodically and IQAC ensures its compliance.
10.	**Chancellor's Award 2017** The Cochin University of Science and Technology bagged Chancellor's Award 2017 for the Best University in the State based on the application prepared and submitted by the IQAC. The award carries a prize money of Rupees Five Crores, a citation and a trophy. The selection for the award is based on the marks scored by the University for its performance in broad components such as Academics , Teaching & Pedagogy methods, Students Profile & Achievements Academic Governance and other achievements. The Award presentation ceremony held on Tuesday, 16th January 2018, 3 PM at CUSAT. The IQAC coordinated the activities related to Chancellor's Award in the University.
11.	The University started providing **financial assistance** to full time students/ research scholars of the University for participating in Seminars/ Conferences /Workshops organized at foreign institutions. IQAC has formulated the guidelines for providing the assistance and is coordinating its activities.
12.	**Administrative Audit** IQAC has submitted a proposal for conducting administrative audit in the University to Syndicate. As per the resolution of the Syndicate, IQAC is formulating criteria and methods to be followed for conducting administrative audit.
13.	**Analysis of Academic and Research Activities of University Departments** The IQAC conducted an analysis of academic and research performance of all teaching departments in the University based on the performance report submitted to IQAC every quarter. The report has been placed before the Syndicate.

14.	IQAC actively involved in preparing and submitting reports as well as coordinating activities related to **ranking processes** such as NIRF ranking, Times Higher education World Ranking, QS World Ranking etc. as well as for All India Survey on Higher Education (AISHE).
15.	Honored the faculty members and students who gained significant achievements for academic/ research activities in the Saasthrayan Programme.
16.	Prepare report on performance of the University and submit to the Hon'ble Chancellor, Governor of Kerala and to the Syndicate of the University every quarter.
17.	IQAC has prepared a proposal and submitted to MHRD for the status of *'Institution of Eminence"* as the University has found place among 32 universities shortlisted by the Ministry of Human Resource Development (MHRD) in the race to become a world-class institution with the status of *'Institution of Eminence'.*
18.	A unique programme "**GURUDAKSHINA**" had been conducted on 16th January 2018 to honour the retired faculty members who paved the way for building up the University. More than 100 retired faculty members attended the programme.

2.15 Plan of Action by IQAC/Outcome

Plan of Action	Outcome
Conduct Academic Audit	Conducted Academic Audit and published its report (*http://iqac.cusat.ac.in/Web/academicaudit*)
Implementation of Vision Plan	As the first step, inter disciplinary research groups have been formed and five virtual centres have been started. Collaborative research is strengthened as per the proposals prepared by these centres and groups.
Appointing international faculties	The Chancellor's Chair has been instituted through which Eminent academicians from foreign institutes invited to the university for at least one month.

Schemes for Appreciation and Recharging of Faculty Members and Researchers	The University has instituted *Distinguished Young Faculty Award* to recognise the faculty members of the University who have contributed significantly to the teaching and research life of the University and *Distinguished Researcher Award* to recognise the full time registered research scholar of the University who have contributed significantly to the research of the University. This award has been instituted utilizing ` 50.00 lakhs of prize money of Chancellor's Award 2017 and is for five faculty members and five research scholars every year.
Development of Data Acquisition Web Portal	IQAC has started developing a data acquisition web portal which will enable the data collection and its analysis more accurate and easy.
Students Feedback	A web portal has been developed for collecting student feedback and analysing it. *(http://www.cusat.ac.in/student_feedback_login.php)*
Scheme for providing financial assistance to students for participating in Seminars/ Conferences abroad	The scheme has been implemented through which eligible and meritorious students get an opportunity to present their research outcomes at institutions abroad.
Conduct Sasthrayan programme to showcase research works and its output to general public	The programme was conducted successfully on 27th and 28th February 2018 with the support of RUSA and Govt. of Kerala. The University doors were opened to school/ college students and public during the days. In this open house, the existing research facilities of social relevance under different faculties such as Engineering, Science, Marine Science, Social Science etc. were highlighted.

** Attach the Academic Calendar of the year as Annexure. **Attached***

2.15 Whether the AQAR was placed in statutory body   Yes ✔   No ☐

Management ☐   Syndicate ☐   Any other body ✔

The AQAR has been approved by the Vice Chancellor subject to ratification of the Syndicate.

The Report will be placed before the Syndicate in its next meeting.

Part – B

Criterion – I
Curricular Aspects

1.1 Details about Academic Programmes

Level of the Programme	Number of existing Programmes	Number of programmes added during the year	Number of self-financing programmes	Number of value added / Career Oriented programmes
PhD	26	-	-	-
PG	51	2	11	33
UG	14	-	14	14
PG Diploma	4	-	-	2
Integrated Masters	1	-	-	-
Diploma	9	-	-	-
Certificate	5	-	-	-
Others M.Phil	9	-	-	
Integrated PhD	2	-	-	2
Total	121	2	25	51

Interdisciplinary	10	-	3	-
Innovative	3	-	1	-

1.2 (i) Flexibility of the Curriculum: CBCS/Core/Elective option / Open options - CBCS

1. (ii) Pattern of programmes:

Pattern	Number of programmes
Semester	85
Trimester	-
Annual	14

1.3 Feedback from stakeholders* Alumni [√] Parents [ ] Employers [ ] Students [√]
(On all aspects)

Mode of feedback   :   Online [√]   *Manual* [√]   *Co-operating schools (for PEI)* [ ]

1.4 Whether there is any revision/update of regulation or syllabi, if yes, mention their salient aspects.

The syllabi of all UG programmes run by the University are revised in once in four years and that of PG programmes once in three years . The syllabi of 20 academic programmes were revised during 2017-18.

1.5 Any new Department/Centre introduced during the year. If yes, give details.

The University has instituted the five new virtual centres to promote interdisciplinary research, as per the academic and research plan prepared by IQAC.

i.   Virtual Centre for Advanced Research in Basic Science
ii.   Virtual Centre for Advanced Research in Engineering Science and Technology
iii. Virtual Centre for Advanced Research in Scientific Computing
iv.   Virtual Centre for Advanced Research in Marine Sciences
v.   Virtual Centre for Advanced Research in Humanities and Social Science

Criterion – II
Teaching, Learning and Evaluations

2.1 Total No. of permanent faculty

Total	Asst. Professors	Associate Professors	Professors	Others
267	101	65	101	-

2.2 No. of permanent faculty with Ph.D.

218

2.3 No. of Faculty Positions Recruited (R) and Vacant (V) during the year

Asst. Professors		Associate Professors		Professors		Others		Total	
R	V	R	V	R	V	R	V	R	V
217	149	35	106	15	50	-	-	267	305

2.4 No. of Guest and Visiting faculty and Temporary faculty

163   15   171

2.5 Faculty participation in conferences and symposia:

No. of Faculty	International level	National level	State level
Attended Seminars/ Workshops	145	125	67
Presented papers	62	58	2
Resource Persons	88	137	71

2.6 Innovative processes adopted by the institution in Teaching and Learning:

- The teachers employ all the latest available teaching methods in order to make the curriculum interesting and their teaching effective. University, being a research oriented university, mainly adopts discussion method and lecture method as the main pedagogy to teach foundations and fundamentals. However, sufficiently advanced topics are given as assignments to encourage students to do literature survey and come up with book and article reviews.

- *Interdisciplinary approach to studies* adopted by our departments is an innovative approach to learning things from various aspects.

- *Multipronged approach to teaching and learning* using several facilities such as the use of Internet, Multimedia, Online talks, journal club, discussions, case studies etc. very well advantage the teaching and learning processes.

- The focus of learning *has become more students centred* now. The Schools/ Departments *conduct weekly seminar either based on recent developments in the relevant area* or on recent articles or reports. Students are made to critically review the article/reports/case laws as well as to comment on it which enhances their presentation skill and critical thinking. *For promoting collaborative learning*, group discussions/group presentations are also initiated.

- *Strong practical orientation* is achieved through practical classes, laboratory work, field studies and projects in-department or in industry or in advanced institutions.

- Students are *encouraged to take up a project idea* and implement it so as to develop their understanding through project based learning. *The linkages with the scientific institutes* offer opportunities for the science students to get internship in those institutes. These internships, in turn, *help them to get on-hand training and experience on various sophisticated equipment and research type experiments*.

- CUSAT being a science and technology, major thrust is given to ensuring industry interactions. *Resource persons from industry are engaged to enrich the courses* for relevant modules in several programmes.

- Students are encouraged to pursue new developments in their subject of interest. The University provides ample opportunities for learners to acquire latest knowledge *by interacting with eminent scholars, scientist and engineers in their field and also to visit their laboratories*.

- Ample facilities have been provided in the campus for the students to enhance their professional skills. This includes *Ship –in – Campus which is a unique* very *high tech lab facility, well equipped laboratories, 24x7 computer and internet facilities, scientifically well equipped Research Vessel etc*.

- The linkages with the national/international research institutes and other educational institutions provide *students exchange programme*. This will be of great help to them in furthering their store of knowledge and expertise in their respective fields. Academic development will be enhanced because of this.

2.7 Total No. of actual teaching days during this academic year

162

2.8 Examination/ Evaluation Reforms initiated by the Institution (for example: Open Book Examination, Bar Coding, Double Valuation, Photocopy, Online Multiple Choice Questions)

- Limited the conduct of the University Examinations to the window period of November and April/May only with a view to avoid loss of teaching hours.
- The Official Transcripts of the mark lists are issued within three days from the receipt of application.
- Started issuing the Degree Certificate within two weeks after publication of results.
- The Degree Certificates are made available on National Academic Depository(NAD). Already around two thousand Degree Certificates have been uploaded to NAD. Students can download and print their copies of Degree Certificates online. The verification agencies can verify the genuineness of the copies online.

2.9 No. of faculty members involved in curriculum restructuring / revision/ syllabus development as member of Board of Study/Faculty/Curriculum Development workshop:

231

2.10 Average percentage of attendance of students :

82

2.11 Course/Programme wise distribution of pass percentage:

Title of the Programme	Total no. of students appeared	Distinction %	I %	II %	Pass %
B.Tech(General)	6436	1076	2462	3	**55.02**
B.Tech Instrumentation	31	12	7	0	**61.29**
B.Tech Polymer Science and Technology	20	2	14	0	**80.00**
B.Tech NA&SB	40	26	14	0	**100.00**
B.Tech Marine Engineering	69	7	38	0	**65.22**
LLB 3yr	37	0	24	4	**75.68**
BBA,LLB	46	2	25	4	**67.39**
BCom,LLB	33				**78.78**
M. Sc. Applied Chemistry	24	15	5	0	**83.33**
M. Sc. Meteorology April 18	15	15	0	0	**100.00**
M. Sc. Biotechnology	12	12	0	0	**100.00**
M. Sc. Hydrochemistry April 18	12	11	1	0	**100.00**
M. Sc. Electronics Science	25	12	13	0	**100.00**
M. Sc. Environmental Technology stream 1	7	7	0	0	**100.00**
M. Sc. Environmental Technology stream 2	6	6	0	0	**100.00**
M. Sc. Industrial Fisheries April 17	19	8	10	0	**94.74**
M. Sc. Instrumentation	14	3	5	0	**57.14**
M. Sc. Mathematics	34	12	4	0	**47.06**
M. Sc. Marine Biology April 18	20	18	2	0	**100.00**
M. Sc. Marine Geology April 17	8	6	2	0	**100.00**
M. Sc. Marine Geophysics April 17	12	2	9	0	**91.67**
M. Sc. Physics	30	15	13	0	**93.33**
M. Sc. Oceanography April 18	14	12	2	0	**100.00**
M. Sc. Statistics	22	10	10	1	**95.45**
M. Sc. Computer Science with specialisation in Soft Computing	13	6	4	0	**76.92**
M. Sc. 5 Year Integrated Photonics	19	9	9	0	**94.74**
MA Applied Economics	16	12	4	0	**100.00**
MA Hindi Language & Literature	28	7	21	0	**100.00**
MBA (Full Time)	60	10	30	0	**66.67**
MBA (Part Time)	17	1	11	0	**70.59**
MBA (IB)	37	2	22	3	**72.97**

MBA (TT)	33	1	21	0	**66.67**
MCA Master of Computer Applications (Comp Appln)	73	35	25	2	**71.23**
M. Fsc Seafood Safety & Trade	19	8	8	0	**84.21**
M. Voc. Technology & Management Consulting	10	2	6	0	**80.00**
M. Voc . Mobile Phone Application Development	3	3	0	0	**100.00**
LLM	24	0	17	0	**70.83**
M. Phil. Chemistry	9	9	0	0	**100.00**
M. Phil. Applied Economics	11	4	6	1	**100.00**
M. Phil. Marine Chemistry October 17	8	8	0	0	**100.00**
M. Phil. Hindi	10	6	4	0	**100.00**
M. Phil. Fisheries Science May 17	5	1	4	0	**100.00**
M. Phil. Mathematics	10	7	2	0	**90.00**
M. Phil. Life Science April 17	6	6	0	0	**100.00**
M. Phil. Commerce	6	0	5	1	**100.00**
M. Phil. Physics	7	7	0	0	**100.00**
M. Tech. Industrial Catalysis	3	3	0	0	**100.00**
M. Tech. Atmospheric Sciences	8	7	1	0	**100.00**
M. Tech. Computer and Information Science	14	9	5	0	**100.00**
M. Tech. Software Engineering	12	7	5	0	**100.00**
M. Tech. Electronics and Communication Engineering	26	21	5	0	**100.00**
M. Tech. Ocean Technology	8	7	1	0	**100.00**
M. Tech. Polymer Technology	11	6	5	0	**100.00**
M. Tech. Opto Electronics and Laser Technology	8	7	1	0	**100.00**
M. Tech. Mechanical Engineering with Specialization in Thermal Engineering	15	10	5	0	**100.00**
M. Tech. (FT) Civil Engineering with Specialization in Geotechnical Engineering	18	13	5	0	**100.00**
M. Tech. (FT) in Software Systems	9	5	4	0	**100.00**
M. Tech. Computer Science and Engineering With Specialization in Network Computing	8	7	1	0	**100.00**

M. Tech. Industrial Safety (Specialization in Health Safety and Environment Management)	17	7	10	0	**100.00**
M. Tech. Computer Aided Structural Analysis and Design	18	10	8	0	**100.00**
M. Tech. Engineering Statistics	6	2	4	0	**100.00**
Certificate Course in French	25	13	10	2	**100.00**
Certificate Course in German	9	1	4	2	**77.78**
Certificate Course in Italian	4	0	3	0	**75.00**
Integrated Diploma in Japanese	5	0	1	3	**80.00**
PG Diploma Communicative English	11	2	6	2	**90.91**

2.12.How does IQAC Contribute/Monitor/Evaluate the Teaching & Learning processes:

- Conducted Academic Audit of the University departments through which teaching learning processes were evaluated and analysed. The suggestions of the experts are being implemented.

- A system for collecting and analysing student feedback online on teaching learning processes has been implemented. The heads of the departments has been directed to take the necessary corrective measures as per the feedback from students whenever necessary.

- The revision of syllabi is strictly monitored and Chairman, Board of Studies and Heads of Departments were directed to do the syllabus revision in three years for PG programmes and four years for B.Tech programmes.

2.13 Initiatives undertaken towards faculty development

Faculty / Staff Development Programmes	*Number of faculty benefitted*
Refresher courses	18
UGC – Faculty Improvement Programme	1
HRD programmes	2
Orientation programmes	1
Faculty exchange programme	2

Staff training conducted by the university	419
Staff training conducted by other institutions	15
Summer / Winter schools, Workshops, etc.	103
Others	6

2.14 Details of Administrative and Technical staff

Category	Number of Permanent Employees	Number of Vacant Positions	Number of permanent positions filled during the Year	Number of positions filled temporarily
Administrative Staff	620	48	-	184
Technical Staff	133	226	0	83

Criterion – III
Research, Consultancy and Extension

3.1 Initiatives of the IQAC in Sensitizing/Promoting Research Climate in the institution

- Initiatives had been taken to encourage research activities of newly appointed faculty members. Fifty Six new project proposals have been submitted to various funding agencies during this year.

- IQAC was instrumental in instituting five new virtual centres to promote interdisciplinary research.

- The research outputs of each department have been analysed by the IQAC and placed before the Syndicate, the supreme statutory body.

- Newly recruited faculty members are encouraged to take up research in a big way and financial assistance is being offered for them in this regard. The University has instituted *Seed Money for new Research Initiatives to the* **newly recruited faculty members** to encourage their research activities. A seed money of upto Rs.5 lakhs each have been given to 24 newly recruited faculty members during this period.

3.2   Details regarding major projects

	Completed	Ongoing	Sanctioned	Submitted
Number	31	121	34	56
Outlay in Rs. Lakhs	1464.01	7480.07	1204.78	

3.3   Details regarding minor projects

	Completed	Ongoing	Sanctioned	Submitted
Number	3	11	3	-
Outlay in Rs. Lakhs	3.50	18.57	9.40	-

3.4   Details on research publications

	International	National	Others
Peer Review Journals	371	93	-
Non-Peer Review Journals	10	46	-
e-Journals	1	3	-
Conference proceedings	237	209	-

3.5 Details on Impact factor of publications:

Range `0.13 – 12.124`   Average `2.36`   h-index `77`   Nos. in SCOPUS `420`

3.6 Research funds sanctioned and received from various funding agencies, industry and other organisations

Nature of the Project	Duration Year	Name of the funding Agency	Total grant Sanctioned (in Rs.)	Received Amount (in Rs.)
Major projects	3-7	DST, KSCSTE, UGC, MNRE, DRDO, DBT, MoES, NRB, DAE-BRNS, ISRO, ICSSR, INSA, CSIR, DECC, IFCPAR, Kerala State Govt.	73,47,07,233	**Rs.19,51,06,185/-**
Minor Projects	1-2	UGC, KSCSTE, NASI	13,67,548	
Interdisciplinary Projects	2-7	DAE-BRNS, DBT-IYBA, DECC, DST-SERB, ICSSR, KSCSTE, ISRO, MoES, SAC, UGC-BSR	31,49,01,634	
Industry sponsored	3-5	VSSC, NPOL, ISRO, SAC, NCRMI	1,69,37,974	
Projects sponsored by the University/ College	1	IUCIPRS	4,00,000	
Students research projects *(other than compulsory by the University)*	-			
Any other(Specify)	-	-		
Total			**1,06,69,46,841**	

3.7 No. of books published   i) With ISBN No. `30`   Chapters in Edited Books `22`

ii) Without ISBN No. `13`

3.8 No. of University Departments receiving funds from

UGC-SAP | 10 | CAS | 1 | DST-FIST | 6

DPE | - | DBT Scheme/funds | 8

3.9 For colleges Autonomy | [ ] CPE | [ ] DBT Star Scheme | [ ]

INSPIRE | [ ] CE | [ ] Any Other (specify) | [ ]

3.10 Revenue generated through consultancy in Rs. | 204.69 lakhs

3.11 No. of conferences organized by the Institution

Level	International	National	State	University	College
Number	10	30	13	-	-
Sponsoring agencies	UGC, TEQIP, KSCSTE, DRDO, SPIE-OSA ,MOES INSA	TEQIP, USIEF, UGC, KSCSTE, CDSL,UGC,DST, UGC SAP DRS II etc	University, Govt. Of Kerala, SOMB etc.		

3.12 No. of faculty served as experts, chairpersons or resource persons | 202

3.13 No. of collaborations International | 21 | National | 25 | Any other

3.14 No. of linkages created during this year | 25

3.15 Total budget for research for current year in lakhs :

From | Rs. 5229.98 lakhs

Funding agency | Rs. 6906.87 lakhs

From Management of University/College | Rs. 1676.89 lakhs

3.16 No. of patents received this year

Type of Patent		Number
National	Applied	7
	Granted	2
International	Applied	-
	Granted	-
Commercialised	Applied	-
	Granted	-

3.17 No. of research awards/ recognitions received by faculty and research fellows of the institute in the year

Total	International	National	State	University	Dist	College
44	10	26	8	-	-	-

3.18 No. of faculty from the Institution who are Ph. D. Guides

201

and students registered under them

1312

3.19 No. of Ph.D. awarded by faculty from the Institution

148

3.20 No. of Research scholars receiving the Fellowships (Newly enrolled + existing ones)

JRF 287   SRF 125   Project Fellows 26   Any other 6

3.21 No. of students Participated in NSS events:

University level 284   State level 105

National level 4   International level -

3.22 No. of students participated in NCC events:

University level -   State level -

National level -   International level -

3.23 No. of Awards won in NSS:

University level [-] State level [-]

National level [-] International level [-]

3.24 No. of Awards won in NCC:

University level [-] State level [-]

National level [-] International level [-]

3.25 No. of Extension activities organized

University forum [144] College forum [-]

NCC [-] NSS [22] [ ]

Any other :

113 Schools visited and 9337 School Students participated in the **One Day Attachment Programme (ODAP)** of Centre for Science in Society (C-SiS) of the University during 2017-18. This is a programme which aims at acquainting children with various science principles and experimental set up, through interactive study materials. A well planned programme for batches of students from one or two schools which reserve the facilities of C-SiS for a day. The following programmes also conducted at CSiS

1) **STDP: Science Talent & Total Capacity Development Programme:-** A month long Summer vacation programme for school children conducted during the month of April and May.
   a) No. of Students who attended: 288 (April and May)
   b) No. of Programmes : 2

2) **Sastra Sameeksha:** A one day Science orientation programme for School children from across kerala held during 7th – 11th May, 2018.

    a) No of Students attended: 130

3) **Sasthraposhini- a Training Programme for High School Teachers** held during 25th – 27th July, 2018.

    a) No of teachers participated : 35

3.26 Major Activities during the year in the sphere of extension activities and Institutional Social Responsibility

- *National Centre for Aquatic Animal Health(NCAAH)* of the University is actively involved in extension activities that cater to the requirement of aqua farmers in protecting health of the rearing stock through the introduction of the recent advancements in marine biotechnology.
- National Institute of Agriculture Extension Management (MANAGE), Hyderabad, sponsored by National Fisheries development Board, Hyderabad, Ministry of Agriculture and Farmers Welfare, Government of India has launched a novel training programme entitled Aquaclinics & Aquapreneurship Development programme (AC & DP) to promote Aquapreneurship through Aquaclinics/Aqua One Centre in every state of the country to fulfill the farmers requirements as well as self sustained employment. To facilitate the above, Government of India has selected NCAAH as one among the ten Nodal Training Institutes in the country.
- *NCAAH* has developed several products through cutting edge research in aquatic animal health and marine biotechnology for *small and medium holding aquaculture farmers*, and public in the State. Shrimp culture is the most important aquaculture activity in the state of Kerala and the Centre has developed products and processes *towards 'Zero water exchange shrimp culture system with integrated disease management and bio-remediation'* for sustainability and profitability.
- NCAAH has now been selected as a **Nodal Training Institute** with **National Institute of Aquaculture Extension Management (MANAGE)**, Hyderabad for conducting Certificate Skill development Programme on " Aqua Clinics and Aquapreneurship Development Programme with the financial support of Dept. of Animal Husbandry Dairying & Fisheries, Ministry of Agriculture and Farmers Welfare, Govt. of India.
- The microbial products of the NCAAH are used by aquaculture farmers not only in the State*, but also in states such as Karnataka, Andra Pradesh, Maharashtra and Rajasthan*.

Besides, Pancham Aquaculture Farms, Mumbai; Maveli Mariner, Nellore, Andra Pradesh; Socio Economic Form, Thrissure and Alwaye,; IL and FS Environmental Infrastructure Limited, Mysore, Palaghat and Rajiv Gandhi Centre for Aquaculture, Sirkali, Tamil Nadu are large scale users of the products. During the year ,altogether around 3032 liters of the following product have been supplied to farmers across Kerala and nearby states, through the in-house production facility.

- The important products from the NCAAH are Detrodigest (Detritus degrader), PS-1 (Antagonistic probiotic for the control of pathogenic *Vibrio*), Enterotrophotic (Gut probiotic), 'MY- Marineyesat' - Marine Yeast *Candida* as feed additive and Garbactum for the enhanced composting of Municipal Solid waste. Besides, the Centre offers Services to the public for Aquaculture environment quality assessment and management, Extension of technical knowhow on zero-water exchange culture systems, Installation Recirculating Aquaculture Systems, Disease diagnosis of aquatic animals and Microbial quality of marine foods .

- The **Centre for Science in Society** established in 1991 conducts various programmes with the view to popularise Science and Technology among children. The major programmes include-

  (1) One day Attachment Programme(ODAP)- aims at acquainting children with various science principles and experimental set up through interactive "learn while you play" sessions. The programme is conducted throughout the year.
  (2) Science Talent & Total Capacity Development Programme (STDP)- Intensive programme meant for children studying in 4th to 9th standards with an aptitude for science held during April and May every year.
  Facilities at C-SiS Science Park; Science Pavilions; See & Believe Laboratories; Maths & IT Labs; Electronics Workshops; Hall of fame;Herbal Garden; Butterfly Garden; ISRO and IEEE Pavilions, Children's Library etc

- **Sasthrayaan- CUSAT Open House.**

  The University conducted Sasthrayaan programme successfully in 2017 (on 20th and 21st January 2017) and also in 2018 (on 27th and 28th February 2018). In 2018, the programme was conducted with the support of RUSA and Govt. of Kerala.

  The university doors were opened to school/ college students and public during the days. In this open house, the existing research facilities of social relevance under different faculties such as Engineering, Science, Marine Science, Social Science etc. were highlighted. This

was the first of its kind conducted in the State and won appreciation from all corners of the society.

Shri. Prakash Javadekar, Union Minister for Human Resources Development *congratulated the University for this Innovative Project 'Sasthrayan'.*

- Extension activities conducted by NSS :

SL NO.	NSS ACTIVITIES
1	World Population day was celebrated on 11.07.2017 with various programmes like debates, elocutions and rally on the theme "Family Planning, Empowering People, Developing Nations".
2	Orientation classes for Junoor students by a senior NSS Volunteer on 14.07.2017
3	As a part of Swacchpakhwada several programmes were conducted i) One day Seminar on "Swacchata" by Dr. G Madhu, Professor, Safety and Fire Engineering, SOE, CUSAT on 01.08.2018 ii) Cleaning of their college, adopted village and its surroundings were done by the NSS Volunteers from 02.08.2017 to 10.08.2017 iii) Rally to create awareness on Cleanliness was conducted on 14.08.2017
4	WOW project with ITC - Inaugurated by Dr. J Letha, Hon'ble Vice-Chancellor of CUSAT. - Awareness class on Management of paper and plastic wastes were given to sweepers of CUSAT on 03.08.2017.
5	Rally on Eye donation campaign in association with PHC, Kalamassery and NSS CUSAT was conducted on 25.08.2017.
6	"Onasadya" with inmates of Yatheemkhana-Edappally on 28.08.2017
7	Free vision screening camp was conducted by NSS CUSAT in association with Vasan Eye Care Hospital, Palarivattom on 14.09.2017 and 15.09.2017
8	NSS volunteers, CUSAT participated in the "Vijnanayathra" organised by the Rajagiri out Reach, Rajagiri college of Social Sciences, Kalamassery on 25.09.2017 as a part of Suchithwa Bodhana Yajnam to initiate support to the Clean Kerala Mission of the Government.
9	Cyclathone with Nerolac Paint Company to focus on Health and Hygiene was conducted on 02.10.2017 and NSS Volunteers helped in painting the walls of Classrooms of Govt. Higher Secondary School, HMT, Kalamassery.
10	Training given to students before conducting survey as part of cleaning canals of Alappuzha on 07.12.2017

11	Survey as part of cleaning canals of Alappuzha on 08/12/2017 and 09/12/2017
12	Road Safety Week was celebrated by conducting Rallies, discussions, debates etc. on road safety and traffic rules to create awareness among student community from 09.01.2018 to 17.01.2018
13	Cleaning and making a garden at Taluk Hospital, Alappuzha on Republic Day 26/01/2018
14	Painting of equipment's in Taluk Hospital on 08.03.2018
15	Seminar on "Say No to Drugs" by Dr. Divya Chandran on 09.03.2018
16	Talk on "Homosapiens and nature in our camp" co-ordinated by Smt. Lekha Kavalam on 11.03.2018
17	Island Cleaning at Pathiramanal on 12.03.2018.
18	Students conducting Health Survey on 13.03.2018
19	Training programme on painting by Sri. Prabhakaran for the NSS volunteers as well as the students of Govt. U P School, Kannadi on 14.03.2018
20	Students helping in constructing a house for the poor Ramya's family on 23/04/2018
21	Taking pledge for national integrity and planting saplings in campus as part of Environment day celebrations on 05/06/2018

- **Extension activities conducted by Dept of Youth Welfare**

1. **Anti-Ragging Awareness Campaign 2017-18**

The University has made wide arrangements to prevent ragging in the Campuses of the University before the commencement of classes of new batch. In this view University has formed a University level monitoring cell, Anti-ragging committee and Anti ragging squads at Department level. This year, University had conducted various sessions among students and made conscious effort to aware each and every senior student of the University regarding the consequences of ragging.

2. **Tree Care Week**

The Department of Youth Welfare observed July 17th to 21st July 2017 as Tree Care Week under the Swachh Bharat Abhiyan Scheme at CUSAT. The objective of the programme was to create awareness among the students about the importance of tree care. Many groups, departments and organizations have been planting trees in the campus and different parts of the state every year. However, the trees planted were not checked or taken care of after the much celebrated planting. Against this backdrop the Department planned to observe a day

for caring the trees in the campus. The slogan of the programme was 'no more plants; rather we care what we planted'.

3. Monsoon Madness: Experiencing Nature

The Department of Youth Welfare, Cochin University of Science and Technology in association with Department of Wildlife and Forests, Government of Kerala has organized monsoon Madness: Experiencing Nature, a monsoon camp during 11 – 13, august 2017 at Vazhachal Forest Division. The primary Goal of the Camp was to provide students with an opportunity to immerse them into nature and to get better sense of understanding and appreciation about the resources and deep beauty of nature.

4. Music Workshop

Department of Youth Welfare, Cochin University of Science and Technology has organized 'The sound of the Music': Music Workshop at CUSAT during 18th to 20th August 2017. The objective of the workshop was to bring the students who love music to a common platform and provide basic lessons in the techniques of music.

5. Popular science Lecture Series

The Department of Youth Welfare is organizing a public science lecture series in the campus with an objective of inculcating scientific temper among the youth and public as part of the extension programmes of the University to the society.

6. Back to Village

Forty seven selected students of Cochin University has visited Panthapra and Therakkudy tribal villages at Kuttampuzha gramma panchayat to learn experiences beyond their traditional class room learning during 30th September to 02nd October 2017 as part of the programme 'Back to village: education through experience'.

Criterion – IV
Infrastructure and Learning Resources

4.1 Details of increase in infrastructure facilities:

Facilities	Existing	Newly created	Source of Fund	Total
Campus area	182183 m^2	0	UGC, DST, State Govt	182183 m^2
Class rooms	167	0		167
Laboratories	194	0		194
Seminar Halls	34	0		34
No. of important equipments purchased ($\geq$ 1-0 lakh) during the current year.	474	98	DST,DBT,MoES, KSCSTE, UGC, SERB, RUSA etc.	572
Value of the equipment purchased during the year (Rs. in Lakhs)	Rs.36,82,41,283	Rs.13,59,65,791		Rs.50,42,07,074

4.2 Computerization of administration and library

- The University is using state of art technologies for communication, administration, examination and teaching learning process enabled by campus- wide optical fibre backbone and 1 Gbps NKN connectivity.

- The e-governance project of the State Government will process University wide transactions on a single software system with multiple functional systems that are designed to streamline almost every aspect of how the institution operates.

a) ADMINISTRATION

- File Flow Management System (FFMS) has been implemented in CUSAT and rolled out on 26th September 2018.

- All the sections in Administrative Office are participating in the digital file flow.

- A number of files are already processed through FFMS.

- A modern data centre instituted. CUSAT data centre is one among the finest installation of data centres among the universities in Kerala. It includes most modern facilities like smart rack, latest fire control systems, CCTV, VESDA, latest Network core components, Generator, fire rated air conditioners etc.

- CUSAT E-Governance Cell is coordinating and leading the Accrual based Double Entry System in Finance in association with NIC. Other universities in Kerala are also trying to adopt the same in near future.

- CUSAT is updating its Payroll Software with UNISPARK system with the help of NIC. Data migration activities are ongoing and CUSAT is much ahead comparing with other universities.

b) <u>ACADEMIC</u>

- All the academic admission processes are online.

- University conducts an All-India **<u>ONLINE</u>** Common Admission Test.

- The candidates can register for this test online and they can register their option for different programmes. A separate website *http://www.cusat.nic.in* is maintained exclusively for this purpose.

- All communications thereafter, such as issue of hall ticket – downloading and printing, result declaration, rank enquiry, registration of options and allotment position are conducted through web.

- The use of internet based resources in teaching learning process is supported by online course management platforms such as Moodle, SWAYAM etc.

- Through this content management, attendance, online tests, grading can be done.

- The internet connection with high bandwidth has been provided to all the Departments/Schools in the University which act as a major factor in improving quality of teaching.

- Student Portal is also under development, Semester Registration testing is undergoing now.

c) EXAMINATION SYSTEM

- The examination processes such as registration, hall ticket downloading, evaluation and publication of results all are automated.

- Facilities are already in place for *issuing the degree certificate within one to two weeks after the publication of results which is a unique feature when considering Indian universities*.

- CUSAT has been registered in the National Academic Depository (NAD).

- The degree certificates are made available on NAD which the students can download and print their copies.

- In addition, the verification agencies can verify the documents online which save a lot of time and effort.

- CUSAT has also implemented a scheme for issuing official transcript within three days of submitting application.

d) Computerization/ Digitalization of University Central Library:

- Automated library with Open source software KOHA
- Library Collection is available through the Web OPAC
- Union Catalogue which upholds bibliographic description, locations and holding information about all the department libraries functioning under CUSAT
- CUSAT library has IP enabled access to online journals under the UGC Infonet Digital library consortium, and INDEST consortium set up in the campus network and the library itself subscribes number of e-journals

- CUSAT library is a member of DELNET (Developing Library Network) which offers services like union catalogue of books, e-books, journals, e-journals; interlibrary loan of books; photocopies of journal articles through document delivery service, etc

- Federated searching tools-EBSCO discovery service which enables a user to search all the library resources in a single query, including books, ebooks, subscribed electronic resources are available on the library website.

- Library website provides access to all the subscribed electronic resources, including, electronic databases, e-journals, journal archives, e-books, OPAC, union catalog, etc. In addition, the library website provides access to the institutional wealth of CUSAT

- Institutional Repository project using DSpace named Dyuthi is started for digitalization of thesis and research papers of CUSAT Community.

- Bibliographic Information System for Science & Technology (BISSAT) established, namely yuj available at yuj.cusat.ac.in

- Media repository for archiving video of CUSAT events available at media.cusat.ac.in

- Traditional Digital Library is available at dyuthi.cusat.ac.in/TKDL

- Established the ETD lab and digitized around 2000+ theses and uploaded into the shodhganga project . Gives assistance for research scholars in making use of the antiplagiarism software-Urkund

- The library modernization project of Rs.8.3 crores funded by the State Government is progressing well; Rs 5.3 crores is allotted to construct a new building for the library and e-journals and databases are procured for Rs.1 crore. The remaining amount will be used to provide better service to students

4.3 Library services:

	Existing 30/4/2018		Newly added 2017-18		Total	
	No.	Value	No.	Value	No.	Value
Text Books	271120	44262288	89643	5767942.24	360769	50030230
Reference Books	59840	4931049	11223	470286.	71063	5401335
e-Books	2435	-	1433	10161298	3868	10161298
Journals	7182	340596	288	4784506.50	7470	5125102.50
e-Journals	29037	5956	37	2437698.90	29074	2443654.90
Digital Database	58	-	27	33813503	85	33813503

CD & Video	2623	106559	24	-	2647	106559
Others (specify)	20356	729790	444	214151	20800	943941

4.4 Technology up gradation (overall)

	Total Computers	Computer Labs	Internet	Browsing Centres	Computer Centres	Office	Depart-ments	Others
Existing	1868	54 labs	1206	36	66	329	1592	-
Added	30	1	10	5	1	12	10	-
Total	1898	55 labs	1216	41	67	341	1602	-

4.5 Computer, Internet access, training to teachers and students and any other programme for technology upgradation (Networking, e-Governance etc.)

CUSAT possess a state of the art, reliable and scalable campus wide network which support the information needs of the user community. All the departments in the main campus are interlinked with a fiber optic backbone. Also the Lakeside Campus 15 Km away and the pulincunnu campus 70 km away from the main campus are connected to the main network. The campus network is seamlessly integrated to the internet through broad band connectivity available to the user community on 24x7 basis. The campus is connected to the National Knowledge Network (NKN) using one Gbps backbone connecting major institutions in India.

In collaboration with Dutch government through MHO-Co-operation project state-of-the art fibre optic backbone was designed, implemented and operated in the university during the period 1997-2004. This project played the baseline for our further endeavours in the area of ICT and related technologies.

Currently CUSAT uses integrated enterprise level applications for most of the activities of an academic organization. This include applications for Administration, Examination, Student admissions, Finance management, Accounts management, Recruitment, Management of different programs like conferences, seminars and symposiums, Digital Library and e-Learning. We have a broad vision for an ERP system for academics as an outcome of all our activities in this direction. We have identified the technology components, implemented the solutions and we take care of operations management of these systems completely in-house in a cost effective manner.

4.6 Amount spent on maintenance in lakhs :

   i) ICT/ Equipments

172.59

   ii) Campus Infrastructure and facilities

1095.02

   iii) Others

112.47

   Total :

1380.08

Criterion – V
Student Support and Progression

5.1 Contribution of IQAC in enhancing awareness about Student Support Services

IQAC is involved with various decision making bodies in the university and the following student support facilities have been initiated:

- Students residential facilities are being enhanced by constructing a new Ladies Hostel for students at the Thrikkakara using a portion of the Chancellor's Award prize money.

- Implemented a new scheme for providing **financial assistance** to full time students/ research scholars of the University for participating in Seminars/ Conferences /Workshops organized at foreign institutions. IQAC has formulated the guidelines and verify the eligibility of applicants for providing the assistance.

5.2 Efforts made by the institution for tracking the progression

IQAC collects and analyses the students enrolment and their progression and it is as follows

For post graduates programme,

- Percentage of students graduating in minimum stipulated time is more than 85%

- Percentage of students placed through the placement cell is more than 34%

- Percentage of selected for higher studies is more than 15%

5.3 (a) Total Number of students

UG	PG	Ph. D.	Others
4470	2281	1312	208

5.3 (b) No. of students outside the state | 1162 |

5.3 (c) No. of international students   18

5.3 (c) Students Profile

Gender Profile (All years all courses combined)

	Number of students	Percentage
Men	5257	63.55%
Women	3014	36.45%

Students Enrolment   (All years all courses combined)

Demand ratio-   UG - 1:78   PG - 1:18

Dropout % - 1.4

5.4 Details of student support mechanism for coaching for competitive examinations (If any)

The University Employment Information & Guidance Bureau conducts coaching classes for UGC-CSIR JRF/NET, Bank Probationary Officer /Management Trainee /Clerical Examinations and eminent faculties handle the sessions.

No. of students beneficiaries   158

5.5 No. of students qualified in these examinations

NET   24   SET/SLET   0   GATE   93   CAT   -

IAS/IPS etc   4   State PSC   5   UPSC   5   Others   52

5.6 Details of student counselling and career guidance

Placement Cell of the University regularly conducts career counseling programmes. University Employment Information & Guidance Bureau which is a joint venture of the University and the National Employment Service Department has been providing service to the youth in the following areas:

(1) Providing career information on educational/research/scholarship facilities etc. (including facilities in overseas countries)

(2) Special coaching classes for candidates belonging to socially backward communities for various competitive examination of the State/Country

(3) Conducting short duration orientation training for certain specialized courses/careers

(4) Conducting model interviews, group discussions and personality development courses, including Career Group Talks; (5) publishing of periodic talks for the student community.

5.7 Details of campus placement

On campus			Off Campus
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed
92	1408	492	43

5.8 Details of gender sensitization programmes

The Women's Studies Centre in the University which was established with the financial assistance from the University Grants Commission regularly conducts various programmes with a view to build up Women's capacity for their empowerment.

The Women's Welfare Organization of the University also coordinates various activities related to the welfare and well being of women in the university.

5.9 Students Activities

5.9.1   No. of students participated in Sports, Games and other events

State/ University level | 34 | National level | 8 | International level | - |

No. of students participated in cultural events

State/ University level | 152 | National level | 29 | International level | - |

5.9.2   No. of medals /awards won by students in Sports, Games and other events

Sports : State/ University level | 11 | National level | 1 | International level | - |

Cultural: State/ University level | 55 | National level | 4 | International level | - |

5.10 Scholarships and Financial Support

	Number of students	Amount in Rs.
Financial support from institution	150	2,44,90,047
Number of students who received International/ National recognitions	234	6,19,57,898

5.11   Student organised / initiatives

Fairs   : State/ University level | 4 | National level | 3 | International level | 0 |

Exhibition: State/ University level | 2 | National level | 3 | International level | 0 |

5.12 **No. of social initiatives undertaken by the students**   6

5.13 **Major grievances of students (if any) redressed:**

- Students residential facilities are being enhanced by constructing a new Ladies Hostel for students at the Thrikkakara using a portion of the Chancellor's Award prize money.

- Implemented a new scheme for providing **financial assistance** to full time students/ research scholars of the University for participating in Seminars/ Conferences /Workshops organized at foreign institutions. IQAC has formulated the guidelines and verify the eligibility of applicants for providing the assistance.

- The laboratory facilities is being enhanced by
  a) setting up a *State of the Art Research Laboratory* at an estimated cost of ₹ 240 crore, with the support of State Government of Kerala utilizing funds mobilized through its Kerala Infrastructure Investment Fund Board (KIIFB).
  b) augmenting equipments with the support of DST PURSE and RUSA funding.

Criterion – VI
Governance, Leadership and Management

6.1 State the Vision and Mission of the institution

The University's basic philosophy and goals find eloquent expression in its Coat of Arms emblazoning the motto *"Tejaswinavadhitamastu"* which in essence means *"may the wisdom accrued defy us both the teacher and the taught and percolate to the Universe in its totality"*, which in essence means "may learning illumine us both" (the teacher and the taught).

The University shall have the following objectives as its mission:

(i) to prosecute and promote research in applied science, technology, industry, commerce, management and social science for the advancement of knowledge and for the betterment of society;

(ii) to provide facilities and offer opportunities for graduate and post-graduate education in applied science, technology, industry, commerce, management and social science by instruction, training, research, development and extension and by such other means as the University may deem fit;

(iii) to devise and implement programmes of education in applied science, technology, industry, commerce, management and social science that are relevant to the changing needs of society, in terms of breadth of diversity and depth of specialization;

(iv) to serve as a centre for fostering co-operation and exchange of ideas between the academic and research community on the one hand and industry on the other;

(v) to organise exchange programmes with other institutions of repute in India and abroad with a view to keeping abreast of the latest developments in relevant areas of teaching and research.

i.2   Does the Institution has a management Information System

- IQAC has been actively engaged in collection and processing of data regarding teaching, learning and research conducted across all departments/schools/centers and other auxiliary bodies, which are used for making policy decisions and for taking quality enhancement initiatives.

- In order to improve the quality, completeness and correctness of data, IQAC is developing a data acquisition web portal so that the report generation becomes highly effective.

- The portal is *http://iqac.cusat.ac.in/Login* through which faculty members and university departments can directly upload their details of achievements and other details.

6.3 Quality improvement strategies adopted by the institution for each of the following:

6.3.1 Curriculum Development

- As in previous years, this year too meticulous follow up was initiated to restructuring of syllabi.
- Started integrated MSc programmes in the disciplines Physics, Statistics, Mathematics, Applied Chemistry
- Started the following new academic programmes :
  - M.Tech Instrumentation Technology w.e.f the academic year 2017-18
  - LL.M(1 year programme) w.e.f the academic year 2017-18
  - MSc Microbiology w.e.f the academic year 2018-19

6.3.2 Teaching and Learning

- Conducted academic audit of University departments/ schools
- All classrooms of the university are equipped with modern technologies to facilitate smart class.
- Ascertained the facilities in the departments including laboratory facilities which help the teaching learning processes and provided the essential requirements under RUSA funding.
- Appointment of faculty members is ongoing continuously.
- The revision of syllabi is strictly monitored.
- Established Massive Open Online Courses (MOOC) Studio.

6.3.3 Examination and Evaluation

- Limited the conduct of the University Examinations to the window period of November and April/May only with a view to avoid loss of teaching hours.

- The Official Transcripts of the mark lists are issued within three days from the receipt of application.

- Started issuing the Degree Certificate within two weeks after publication of results.

- The Degree Certificates are made available on National Academic Depository(NAD). Already around two thousand Degree Certificates have been uploaded to NAD. Students can download and print their copies of Degree Certificates online. The verification agencies can verify the genuineness of the copies online.

6.3.4 Research and Development

- The work of setting up of *State of the Art Research Laboratory* at CUSAT at an estimated cost of ₹ 240 crore, utilizing funds mobilized through its Kerala Infrastructure Investment Fund Board (KIIFB) has been initiated.

- During this period, 121 research projects which are being funded by various agencies are ongoing. Total grant received for research projects during the period 2017-18 is ₹ **19,51.06** lakhs.

- Presently 10 University Departments/Schools are getting financial assistance under Special Assistance Programme (SAP) from UGC and 6 departments under Fund for Improvement of S&T Infrastructure (FIST) programme from DST.

- *Seed Money for new Research Initiatives:*

  It is considered desirable that the newly recruited faculty members are encouraged to take up research in a big way and financial assistance is being offered for them in this regard. The University has instituted *Seed Money for new Research Initiatives to the* **newly recruited faculty members** to encourage their research activities. A seed money of upto Rs.5 lakhs each have been given to 24 newly recruited faculty members during this period.

- The University has instituted the five new virtual centres to promote interdisciplinary research, as per the academic and research plan prepared by IQAC.

  i. Virtual Centre for Advanced Research in Basic Science
  ii. Virtual Centre for Advanced Research in Engineering Science and Technology
  iii. Virtual Centre for Advanced Research in Scientific Computing
  iv. Virtual Centre for Advanced Research in Marine Sciences
  v. Virtual Centre for Advanced Research in Humanities and Social Science

6.3.5 Library, ICT and physical infrastructure / instrumentation

- The library infrastructure facilities are enhanced by building up a new library block.
- The work of setting up of *State of the Art Research Laboratory* at CUSAT at an estimated cost of ₹ 240 crore, utilizing funds mobilized through its Kerala Infrastructure Investment Fund Board (KIIFB) has been initiated.
- Students residential facilities are being enhanced by constructing a new Ladies Hostel for students at the Thrikkakara using a portion of the Chancellor's Award prize money.

6.3.6 Human Resource Management

- The faculty members are encouraged to participate in conferences, interact with experts in the relevant fields in order to further enrich research, deliver invited talks in national and international conferences. In this connection, the University departments/schools as well as research centres regularly conducts workshops/seminars/ conferences/ lecture series by eminent academicians/scientists etc.
- Training programme for teaching/ non teaching staff are regularly conducted by the Centre for Employee Empowerment and Skill Acquisition Centre.

6.3.7   Faculty and Staff recruitment.

- During 2017 and 2018, 25 appointments have been made to fill the vacant faculty positions.
- Nearly 70 appointments have been made to fill the vacant non teaching positions.

6.3.8 Industry Interaction / Collaboration

- A Centre for Innovation, Technology Transfer and Industrial Collaboration (CITTIC) is functioning very actively in the campus

- 21 start-ups/ enterprises are initiated by the students

- The University have active research and academic collaborations with many industries and research centres in India and abroad.

  - For instance, University have academic and research collaboration with **Cochin Shipyard Limited (CSL)**. Experts from CSL are involved in teaching core naval architecture subjects for students of the University.

- By giving recognition to several well-established premier research institutions in the country and *the Southern Naval Command of Indian Navy*, the University has brought within its reach the resources available in these institutions for the use of the academic community. Recognized and offers degrees for all professional courses conducted by 11 institutions under Southern Naval Command (SNCHQ), Indian Navy, in Diving technology, Naval weapons, Aeronautics, Underwater science & technology, Nautical Science and Tactical Operations.

  - The University has signed MoU with the following foreign and domestic institutions primarily focusing student/faculty exchange. Some MoUs are related to training, Industrial collaboration.

Sl.No.	Name Of The Institution / Industry	Date of Agreement
1	Amrita Viswa Vidhyapeetham, Coimbatore	**22/09/2018**
2	Binary University, Malaysia	28/05/2018
3	Genomics Central [Reg.Magenomics Pvt.Ltd]	10/05/2018
4	National Centre For Earth Science Studies (Ncess), Thiruvananthapuram	12/04/2018
5	National Centre For Antarctic And Ocean Research (Ncaor), Vasco – Da - Gama, Goa	13/03/2018
6	Old Dominion University, Norfolk, Virginia, Usa	22/01/2018
7	Niigata University, Japan (Institutional Level)	01/12/2017

8	Niigata University, Japan (Faculty Level)	01/12/2017
9	Shimane University, Japan Mou (Supplementary)	24/11/2017
10	Nippon Kaiji Kyokai (Class Nk), Tokyo, Japan	17/08/2017
11	Nansen Environmental And Remote Sensing Centre (Nersc), Bergen, Norway + Nansen Environmental Research Centre India, Cochin (Nerci)	29/05/2017
12	Yamagata University, Japan	09/05/2017
13	Steel And Industrial Forgings Ltd(Sifl), Athani, Thrissur	30/03/2017
14	COCHIN SHIPYARD LIMITED (CSL)	20/01/2017
15	Kerala State Industrial Development Corporation Ltd (Ksidc), Thiruvananthapuram	03/10/2016
16	Sree Chitra Tirunal Institute For Medical Sciences And Technology (Sctimst), Thiruvananthapuram	08/08/2016
17	Shimane University, Matsue, Japan	24/05/2016
18	Sfo Technologies Pvt Ltd, Nest, Kakkanad	25/04/2016
19	Multimedia University, Malaysia	12/04/2016
20	Louisiana State University, Louisiana	08/09/2015
21	The Plastics And Rubber Institute Of Srilanka (Prisl),Srilanka	28/07/2015
22	Troy University, Usa	28/04/2015
23	Vsb Technical University Of Ostrava, Czech Republic	21/01/2015

6.3.9 Admission of Students

- Admission to various courses offered by the University is through Common Admission Test (CAT) conducted during April-May, each year.
- The University receives applications for various courses, **online**
- The admission test had been made ONLINE from the 2016 academic admissions onwards.
- A separate website ***http://www.cusat.nic.in*** is maintained exclusively for this purpose. The said web site contains link for online registration, brochure, details of all courses, eligibility requirements and lowest rank admitted in last year's CAT. Online help is offered through this website.
- All communications thereafter, such as issue of hall ticket – downloading and printing, result declaration, rank enquiry, registration of options and allotment position are conducted through web.
- The students from different states and abroad also apply for admission to these courses and 10% seats in most of the UG programmes are reserved for NRI's. On an average, we receive over 35,000 applications.

6.4 Welfare schemes for

a) **Welfare Schemes for Teaching as well as Non Teaching Staffs:**

- Pension and Family Pension
- Medical Reimbursement Facility
- Leave Travel Allowance
- Cochin University Employees Society and Employees Welfare Fund are centred around the financial needs of the staffs

b) **Welfare Schemes for Students:**

- Students Aid Fund: a scheme for giving financial assistance to the deserving students with low financial background but with good academic records.

- University is providing post doctoral fellowship of Rs.25,000/- per month with contingent grant of 20,000/- p.a

- The University is providing 150 research fellowships at a rate of Rs.12,500/- per month in the first two years and Rs.15,000/- per month for the next 1and ½ years with a contingent grant of Rs 10,000/- per annum

- Monthly stipend of Rs 5000/- is being provided to students undertaking projects outside University departments / schools.

- Department of Youth Welfare is a formal platform in the University to design and implement youth policy which includes the issues related to motivation, participation, promotion and socio-economic and cultural settings within which young people grow up. The Department has organized a lot of programmes in the year 2017-18 for the purpose of building confidence, creativity and compassion among the students.

- The University have a Students Amenity Centre in which the Dept of Youth Welfare as well as Dept of Physical Education is functioning. In addition, a multi-Gym, Tennis court, Shuttle courts, Basketball courts Playground for football and Cricket. Yoga Centre, Health Centre and a Mind Clinic are also available for students. There are eight men's hostels and six women's hostels for meeting the residential needs of students.

6.5 Total corpus fund generated

6.6 Whether annual financial audit has been done

Yes	√
No	

6.7 Whether Academic and Administrative Audit (AAA) has been done?

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	No		Yes	IQAC
Administrative	√	Kerala Government Audit Department	√	Audit Wing of University

6.8 Does the University/Autonomous College declares results within 30 days?

For UG Programmes   Yes [√]   No [ ]

For PG Programmes   Yes [ ]   No [√]

6.9 **What efforts are made by the University/ Autonomous College for Examination Reforms?**

- Limited the conduct of the University Examinations to the window period of November and April/May only with a view to avoid loss of teaching hours.
- The Official Transcripts of the mark lists are issued within three days from the receipt of application.
- Started issuing the Degree Certificate within two weeks after publication of results.
- The Degree Certificates are made available on National Academic Depository(NAD). Already around two thousand Degree Certificates have been uploaded to NAD. Students can download and print their copies of Degree Certificates online. The verification agencies can verify the genuineness of the copies online.

6.10 What efforts are made by the University to promote autonomy in the affiliated/constituent colleges?

Not Applicable

6.11 Activities and support from the Alumni Association

CUSAT finds itself in an enviable position of having its Alumni holding very important positions in many academic, research, industry and government organizations. The support provided to them in their studies is gratefully remembered and they have shown great willingness to support CUSAT in its development journey.

Individual university departments have alumni associations and these alumni are actively involved in the activities in the following way:

- by giving their feedback on course which helps in syllabus restructuring.
- by offering placement drives.
- giving financial support to augment the academic and infrastructure facilities in the concerned departments.
- Representatives from alumni are included in the IQAC

6.12 Activities and support from the Parent – Teacher Association

- Every year before the commencement of classes, an orientation programmes has been conducted for the first year students and their parents.

- The University, in association with the PTA of UG departments has introduced a provision in the CUSAT web site- **Students Academic Information System** [*http://wais.cusat.ac.in/index.php*]- to publish all the results of students, both internal and externals, which can be accessed by all parents to follow the performance of their wards on a continuous basis.

6.13 Development programmes for support staff

- Training programme for non teaching staff are regularly conducted by the Centre for Employee Empowerment and Skill Acquisition Centre.
- This was aimed in better office management to increase efficiency and well as induct more transparency in procedures

6.14 Initiatives taken by the institution to make the campus eco-friendly

CUSAT has a green and eco friendly campus. The engineering department of the university is in overall charge of maintaining the campuses.The "Greening" activities include rainwater harvesting, plantation / felling of trees / shrubs, etc and further maintaining medicinal plants, creating and maintaining scenic ambience, removal of litter and waste and associated works. Also NSS as well as Dept. of Youth Welfare have made a good contribution to this cause, mainly by students joining hands in social movements.

Criterion – VII
Innovations and Best Practices

7.1 Innovations introduced during this academic year which have created a positive impact on the functioning of the institution. Give details.

i. **Institution of Chancellor's Chair-** The ***Chancellor's Chair Scheme*** has been instituted in the University to engage eminent scientists/ academicians from foreign universities having rank, preferably, within 200 in the world university ranking as Chancellor's Chair Professors. The scheme is being conducted under the realm of IQAC. An amount of Rs.2,50,00,000/- (Rupees Two Crores and Fifty Lakhs only) of Chancellor's Award prize money has been earmarked for this scheme.

ii. **Institution of Distinguished Young Faculty Award & Distinguished Researcher Award**
The "Distinguished Young Faculty Award" and "Distinguished Researcher Award" has been instituted for honouring the faculty members and research scholars respectively of the University who are contributing significantly to the teaching and research of the University every year.

iii. Activities of **Technology Incubation Centre (TBI)** has been strengthened and 21 companies has been started by the students/Alumni of CUSAT at CITTIC

7.2 Provide the Action Taken Report (ATR) based on the plan of action decided upon at the beginning of the year

Sl. No.	Item Details	Action Taken
1	Invite eminent scientists/ academicians from foreign universities	Instituted Chancellor's Chair Scheme and Dr.Bin Han Professor of Mathematics, University of Alberta (THE world University Rank 2018 - 119) is the first Chancellor's Chair Professor.
2	To set up of State of the Art Research Laboratory and academic block	The work of setting up of *State of the Art Research Laboratory* at CUSAT at an estimated cost of ₹ 240 crore, utilizing funds mobilized through its Kerala Infrastructure Investment Fund Board (KIIFB) has been started

3	To Provide Research Seed Money for young teachers	Instituted scheme to provide seed Money for new Research Initiatives to the newly recruited faculty members to encourage their research activities. A seed money of upto Rs.5 lakhs each have been given to 19 newly recruited faculty members during this period.
4	To conduct of Academic Audit in the University Departments/Schools by external experts	Conducted of Academic Audit and published the report.
5	To commence new integrated MSc programmes	Started four new integrated M.Sc programmes in Physics, Chemistry, Mathematics and Statistics from 2018 acadmeic admissions onwards.
6	To commence a new programme BVoc Business Process and Data Analysis	Started BVoc Business Process and Data Analysis at DDU Kaushal Kendra of the University.
7	To provide financial assistance to students for participating in International Seminars	Started a new scheme for providing financial assistance for students to present papers in seminars/ conferences organized at foreign institutions.
8	Develop a web Portal for collection and analysis of Student Feedback	Developed web portal to collect details from faculty members. The same for collecting data from the departments is ongoing.
9	Strengthen faculty development activities	Instituted Distinguished Young faculty award to recognise the faculty members who contributed significantly to teaching and research. Conducted various training programmes, short term courses, workshops etc.
10	To continue the filling up of vacant faculty positions.	Recruited 25 new faculty members during this quarter.

7.3 Give two Best Practices of the institution

I. **A centralized, single window for admission to all courses of CUSAT is being held towards attracting best talent from all over India** – around 40% seats are open for students from all other states - this approach aims at providing a metropolitan outlook to candidates and helps to inculcate professional agglomerate of mixed culture. **Admission to various courses offered is through ONLINE Common Admission Test (CAT)** conducted during April-May, each year. A separate website *http://www.cusat.nic.in* is maintained exclusively for this purpose.

II. **All PG programmes in the University are having total internal assessment evaluation** with effect from 2015 academic admissions onwards. This facilitates the announcement of results immediately on the completion of the examinations. Thus students benefit from the teaching programmes concurrently when they are evaluated for their skills and knowledge in respective fields.

7.4 Contribution to environmental awareness / protection

- Cochin University of science and Technology in collaboration with ITC launched *'Well-being out of Waste'* (*WOW*) programme at campus as an initiative towards introduction of *Green Protocol* in the campus. All schemes including WOW project under "Green Protocol" initiative will be completed shortly. The NSS Unit of CUSAT leads the project. As part of this initiative, the trained housekeepers of CUSAT collect and segregate plastic, paper and metal waste and hand over to ITC. In return ITC will supply note books and stationery which will be distributed to the deserving students.

- Two water recharge systems harvesting water including rain water is already put to use from which water is taken for the day to day activities of the campus. The capacity of these ponds are 1,00,000 litres each.

- Another water recharge system to harvest water including rain water of the capacity of 50,000 litres has been recently completed in the main Campus. This is expected to alleviate the water shortage faced by the University to a great extent.

- As part of the up-gradation of CUSAT campus and to promote a cost effective energy option, the University had submitted a proposal to Govt. of Kerala to get a

financial assistance of Rs.8.5 crores to set up a 1 MWpRoof Top Solar PV based system.

7.5 Whether environmental audit was conducted?

Yes ☐   No ☑

7.6 Any other relevant information the institution wishes to add. (for example SWOT Analysis)

The Strengths, Weaknesses, Opportunities and Threats for the University are stated and explained below.

STRENGTHS

A University of Science and Technology: The University is able to focus its attention on Teaching and Research of high quality in the area of Science and Technology.

Unitary Status:A Unitary University[in the absence of a large number of Affiliated Colleges]with jurisdiction all over Kerala, gives CUSAT the unique chance to concentrate on its Teaching and Research Programs and maintain good control over its quality and performance.

High Reputation: CUSAT has a very high reputation; this helps it in attracting good teachers, students and projects. This helps in further enhancing its reputation.

Geographical Location: Located in Cochin, a fast-developing city with excellent road, rail and air connectivity provides CUSAT with locational advantage for growth and development.

Research and Publication: The University has an excellent track record in research and publication. It has been rated among the top 10 Universities in terms of publication in India.

Research Infrastructure: From its inception, CUSAT because of its focus on research in science and technology has been able to develop an enviable research infrastructure through government grants and various projects including international collaborations.

Variety of Departments and Centres: CUSAT has a wide variety of Departments ranging from Marine sciences, Technology, Engineering to Social Sciences, Law and Languages. This variety helps in multi-disciplinary approaches and cross functional learning.

Collaborations: There has been a tradition at CUSAT to encourage collaborations. Just as Kerala has been receptive to traders and religious groups from various countries over the ages, CUSAThas encouraged visitors to collaborate with it. As a result, CUSAT was the only University in India selected for the prestigious MHO collaboration with the DUTCH Government. This project helped the University to strengthen its research infrastructure.

Good Administrative Structure: As provided in the CUSAT Act, the University has developed a good administrative structure for governance and support system for the academic and research programmes that it undertakes. A good mechanism has been set in place to improve the quality parameters involved in teaching and research using the Internal Quality Assurance Cell (IQAC). The IQAC has helped CUSAT in gathering quality related data and providing the much-needed feedback to the University administration for necessary actions.

A large well placed supportive Alumni base: CUSAT finds itself in an enviable position of having its Alumni holding very important positions in many academic, research, industry and government organizations. The support provided to them in their studies is gratefully remembered and they have shown great willingness to support CUSAT in its development journey.

Good Placements: The very good placements that the students graduating from CUSAT receive may be cited as the single most important reason for attracting so many students to the courses offered by CUSAT.

Large campus in prime locality with a lot more space for expansion: The large campus that we have in Kalamassery gives us the opportunity to develop and grow as and when opportunities present themselves.

Affordable and quality Education: A salient feature of CUSAT is not only the quality education it provides in Science, Engineering, Technology and Management but also the low fees it charges for its programmes. By doing this, being a State University, it fulfils its

social obligations and provides access to higher education more inclusive. On an average, the payback period for a CUSAT pass out is less than their salary for four months.

Sensitivity to social needs: CUSAT has always involved itself in finding Science and Technology based solutions to the problems faced by the society. For instance, the National Centre for Aquatic Animal Health that helps farmers in aquaculture, infighting fish diseases and so on. Another example is the Centre for Science in Society which tries to engage in promoting the fun and experimental way of learning science among school children. It also promotes use of science to solve day to day problems.

OPPORTUNITY

Universities from Developed Countries searching for partners in India: Of late, we have been witnessing a constant flow of Universities from abroad searching for partners in India to collaborate with. They have been expressing their desire to collaborate with CUSAT.

More learners: As time passes we are seeing more learners/students seeking admission for courses in CUSAT. In the early daysonly, students from Kerala sought admission to CUSAT. However, presently students from other States of India as well as from other countries are showing keen interest in pursuing their studies at CUSAT.

Better quality teachers willing to join CUSAT: The recent advertisements for Faculty positions in the University received tremendous response and it shows that very good quality teachers and researchers are willing to join the service of CUSAT.

More industry sponsored Projects: The Industry has been showing increased interest in using the expertise available at University for conducting sponsored research which would be of commercial value for them. Many Professors from CUSAT have come up to take this challenge and do such sponsored projects.

More Research scholars with JRF available: With the expansion of the education system in India there is increased need for teachers. The pay package for teachers has become better. This has led to many good students showing keen interest in research and later taking up teaching jobs. Most of these students are also able to get scholarships such as JRF from funding agencies.

I.C.T. Based education system usage opportunities at lower cost: The ICT infrastructure put in place with a fibre optic backbone with servers and an internet gateway for the campus has created an environment where ICT can easily be used in the teaching-learning process.

E-Libraries and E-Resources: The new generation students are IT savvy and love to use their smart phones and laptops. Many of the research publications, books and other learning materials are available in electronic format and providing this to students is a flexible and more cost-effective option.

MOOC: The massive open online courses are the latest in the teaching-learning area. This presents great opportunities for both supplementing the class room learning at the University for our students as well as providing MOOCs for other learners and enhancing reputation of CUSAT.

Inter department Collaboration: The cutting-edge research today takes place at the interface of disciplines rather than purely inside a discipline.   This presents great opportunities for inter-departmental collaborative research. At CUSAT we are already on this path. The International School of Photonics Department is an example where Physics and Electronics have collaborated. The Radar Centre is the outcome of the collaboration between Electronics and Atmospheric Sciences.   The future presents many such opportunities.

This University has been receiving good support from the State Government by way of policy backing, due recognition and promotion in our S & T activities and has been committed to further strengthen our goals in terms of funding and expansion.

Government of Kerala has released an amount of 243 Crores recently for establishing world class laboratories. Our appeal for additional Land and financial support is under consideration of the Government of Kerala.

WEAKNESSES

Vacant Faculty Positions: Regular non-replenishment in the number of faculty has affected the performance as expected. This is now slowly being reversed, with recruitments being done.

Lack of Funds for New Hostels: A completely residential University of higher learning can reach greater heights more easily. Lack of hostels catering to the requirements of a larger section of the students was a long-standing concern.

Financial autonomy: Being a government funded University we follow the financial procedures of the Government. It is contemplated that procedural delays often inhibit the expected progress in terms of meeting objectives on time.

More students from the state only: Being a State University most of the students come from this State. Slowly and steadily this trend is changing and we are realising that students from other areas also contribute to learning in class and social development at the University. But even then, the current admissions do not have enough representations from outside Kerala in most courses.

Lack of visibility of the courses: The general public is more concerned with Engineering and Medical education only. They are not very aware of the other courses available in CUSAT. This lack of awareness and visibility of CUSAT among the general public affects student intake.

THREATS

Private Deemed Universities with more funding: With opening up of the education sector Private Deemed Universities and institutes with more funding, more publicity and advertisement, charging very high fees have put up attractive infrastructure to attract the rich students. This is luring the top segment of the students both in terms of economy as well as calibre. This forces Universities like CUSAT to cater to economically weaker students.

Students demanding better physical facilities: Because of the overall improvement in the standard of living the expectations of the students regarding physical infrastructure is increasing day by day. This is a threat to government institutions like CUSAT which are

not able to upgrade the physical facilities such as buildings and furniture periodically. On the other hand, the challenges faced because of the expectations of students of academic front are not at all increasing. This is the area where CUSAT has its strength. If it were increasing CUSAT could have easily matched this expectation where as many private universities could not.

Disruptions and loss of working days: The society at large today faces more disruptions due to strikes and declaration of holidays. The impact of this is also felt at CUSAT since we lose many working days to such disruptions.

More choices for all: Unlike the past where there were only a few Universities and centres of higher learning and the learners had only very limited choice, today they have many institutions to choose from. This has made the situation highly competitive.

Other institutions offering similar courses: After seeing the initial success of Institutions such as CUSAT in developing and running new courses, which are successful many other institutions have copied the courses and are running similar courses which are in high demand, posing threat to the University.

Entry of Foreign Universities: With the entry of foreign universities into the country it is expected that they will try to skim the cream of the students and leave the bulk of the average students to be taught by State Universities.

Having conducted the SWOT analysis, the University proposes to build on its strength and use its strengths to make the best use of the opportunities which are listed above. The strengths will also be used to counter the threats posed. The task of identifying the weaknesses has been done, efforts will be made to reduce these weaknesses to the minimum and contain their ill effects on the working of the University.

8. Plans of institution for next year

- To introduce a scheme for "Teaching Assistantship Linked Scholarship"

- To strengthen the CUSAT alumni to help recruit good teachers, researchers and students; regularly organize seminars by given opportunity for potential collaborate to visit, work or study with CUSAT

- To institute a mechanism for performance recognition of teachers, researchers and learners

- To encourage and reward continuous learning and collaboration with researchers from other disciplines

- To institute a High Level 'Planning & Evaluation Committee'

- To institute a mechanism for evaluation of existing academic courses.

- To encourage and reward continuous learning and collaboration with researchers

- To institute Interdisciplinary Centre for Research Ethics and Protocol

- To institute Data Development Centre

- To implement Total Waste Treatment Technology Park

- To introduce Double Entry Accounting System

- To institute a scheme for appointing Assistant Professors under Tenure Track

Sd/-   *Sd/-*
DR.K.GIRISH KUMAR   ***DR.R.SASIDHARAN***
Director IQAC   *Vice Chancellor*
Signature of the Coordinator, IQAC   ***Signature of the Chairperson, IQAC***

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