

**Evaluative Reports of the
Departments of
Swami Ananthatheertha Campus,
Payyanur**

5.1 Department of Chemistry

1. Name of the Department : Department of Chemistry
2. Year of establishment : 2002
3. Is the Department part of a School/Faculty of the university? : Yes, School of Chemical Sciences
4. Names of programmes offered (UG, PG, M.Phil., Ph.D., Integrated Masters; Integrated Ph.D., D.Sc., D.Litt., etc.) : PhD in Chemistry and Biochemistry,
M.Sc. Chemistry (Material Science)
5. Interdisciplinary programmes and departments involved : Nil
6. Courses in collaboration with other universities, industries, foreign institutions, etc.: Nil
7. Details of programmes discontinued, if any, with reasons : Nil
8. Examination System: Annual/Semester/Trimester/Choice Based Credit System: CCSS
9. Participation of the department in the courses offered by other departments: Nil
10. Number of teaching posts sanctioned, filled and actual (Professors/Associate Professors/Asst. Professors/others)

	Sanctioned	Filled	Actual (Including CAS & MPS)
Professor	Nil	Nil	1
Associate Professor	1	1	0
Asst .Professor	2	1	1
Others (Contract Staff)	3	1	-

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance.

Name	Qualification	Designation	Specialization	No.of years of experience (in the dept)	No.of M.Phil/ Ph.D. students guided for the last 4 years
Dr. K.R. Haridas	M.Sc., Ph.D.	Professor	Material Chemistry	11	Ph.D. -8
Dr. S. Sudheesh	M.Sc., Ph.D.	Assistant Professor & Head	Biomaterial	09	Ph.D. -5

12. List of senior Visiting Fellows, adjunct faculty, emeritus professor:

Sl.No	Name	Highest Qualification	Designation
1	Dr. K. Mohanan	Ph.D.	Professor (Retd) Kerala uty
2	Dr. S. Sugunan	Ph.D.	Professor (Retd), CUSAT
3	Dr. T.D.R. Nair	Ph.D.	Professor (Retd) Calicut uty
5	Dr. K. Anoopkrishnan	Ph.D.	Scientist CESS, TVM
7	Dr. S. Anathakumar	Ph.D.	Scientist NIIST, TVM

8	Dr. Padmanabhan	Ph.D.	Professor(Retd) M.G uty
9	Dr. K.G.K. Warriar	Ph.D.	Scientist NIIST, TVM
10	Dr V. Kumar	Ph.D.	Scientist CMET, Trissur

13. Percentage of classes taken by temporary faculty – programme-wise information : 60 %

14. Programme-wise Student Teacher Ratio

1. M.Sc. : 13:1

2. Ph.D. : 6:1

15. Number of academic support staff (technical) and administrative staff: sanctioned, filled and actual :

	Sanctioned	Filled
Non-Teaching (Administrative)	2 (shared by 3 Depts.	2 (Shared by 3 Depts.
Technical	01 (daily wages)	01 (daily wages)

16. Research thrust areas as recognized by major funding agencies:

: Organic Solar Cells, Biomaterials.

17. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise.

Sl. No	Name of Project	Funding Agency	Amount Sanctioned	Name of PI
1	Synthesis, characterization and application studies of smart materials containing rare earth elements in organic solar cell sensor devices.	BRNS, Govt. of India	21.6 lakh	Dr. K .R. Haridas
2	Evaluation of flavonoids from punica granatum and solanum melongena for their Antiinflammatory activity (minor)	UGC	1.74 lakh	Dr.S. Sudheesh
3	Development of technology of radiation sterilized herbal plaster	BRNS, Govt. of India	21.6 lakh	Dr. S. Sudheesh
4	Synthesis and characterization of organic dyes for application in dye	DST Govt. of India	14 lakh	Dr. K. R. Haridas / P.V.Rajitha

18. Inter-institutional collaborative projects and associated grants received : Nil

a) National collaboration

b) International collaboration

19. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received: Nil

20. Research facility / centre with

- state recognition : Yes
- national recognition :
- international recognition :

21. Special research laboratories sponsored by / created by industry or corporate bodies : Nil
22. Publications:
 - a. Number of papers published in peer reviewed journals (national/international) : 20
 - b. Monographs : Nil
 - c. Chapters in Books : 01 1. S. Sudheesh, Chemistry and biotechnology of polyphenols, Potencial health benefits of flavanoids from Punica granatum,CiBET publishers, 2011.
 - d. Edited Books : Nil
 - e Books with ISBN with details of publishers : Nil
 - f. Number listed in International Database (For e.g. Web of Science, Scopus, Humanities International Complete, Dare Database - International Social Sciences Directory, EBSCO host, etc.).
 - g. Citation Index – range / average
 - h. SNIP
23. Details of patents and income generated : Nil
24. Areas of consultancy and income generated : Nil
25. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad.: Nil
26. Faculty serving in
 - a) National committees b) International committees c) Editorial Boards d) any other (please specify) : Nil
27. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs).
 Refresher Programmes: Dr. S. Sudheesh – 1 (2012)
 Orientation Programmes : Dr. S. Sudheesh – 1 (2008)
28. Student projects
 - a percentage of students who have done in-house projects including inter-departmental projects - Nil
 - b percentage of students doing projects in collaboration with other universities industry / institute – 100%
29. Awards / recognitions received at the national and international level by
 - a Faculty: : Dr. K. R. Haridas- Fellow of American Chemists- International
 - b Doctoral / post doctoral fellows : Nil
 - c Students : Nil
30. Seminars/ Conferences/Workshops organized and the source of funding (national international) with details of outstanding participants, if any.

Year	Name Seminar / Conference	Date
Cyr-1	National Sciences day - Jointly organized by research scholars of department of Chemistry & Physics	28th February 2014
Cyr-2	Special Lecture on Solid State NMR Spectroscopy & Surface analysis- organized by Chemistry association	26th March 2013
	Special Lecture on Thermal analysis & NMR Spectroscopy organized by Chemistry association	29th ,November 2012
Cyr-3	Erudite Programme	12-16 December 2011
Cyr-5	Emerging trends in material Science	28-08-2009

31. Code of ethics for research followed by the departments:

The codes as envisaged by the UGC, Govt of Kerala and Kannur University for the conduct and promotion of research activities

32. Student profile programme-wise:

Name of the Programme (refer to question no. 4)	Applications Received	Selected		Pass percentage	
		Male	Female	Male	Female
MSc (2014-2016)	183				
(2013-2015)	173	03	14		
(2012-2014)	184	00	17	00	14
(2011-2013)	177	01	11	01	11
(2010-2011)	143	02	10	02	10

33. Diversity of Students

Name of the Programme (refer to question no.4)	% of students From the same	% of students from other universities within the State	% of students from universities outside the State	% of students from other countires
MSc (2014-2016)	88.24	11.76		
(2013-2015)	82.36	17.64		
(2012-2014)	82.36	17.64		
Ph.D.	7/13=53.85	3/13=23.08	3/13=23.07	

34. How many students have cleared Civil Services and Defense Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise.
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- NET – 19, GATE - 7

35. Student progression

Student Progression	Percentage against enrolled
UG to PG	Nil
PG to M.Phil.	Nil
PG to Ph.D.	41 %
Ph.D. to Post-Doctoral	5 %
Employed	No Campus Selection process 65 %
▪ Campus Selection	
▪ Other than campus recruitment	
Entrepreneurs	Nil

36. Diversity of staff

Percentage of faculty who are graduates of	
the same University	Nil
Other Universities within the State	Nil
Universities from other States	100 %
Universities outside the country	Nil

37. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period: Nil
38. Present details of departmental infrastructural facilities with regard to
- Library: Text Books: 1329, Reference Books: 300, Journals/Periodicals: 03
 - Internet facilities for staff and students: Available
 - Total number of class rooms : 2
 - Class rooms with ICT facility : Yes
 - Students' laboratories : 03
 - Research laboratories : 02
39. List of doctoral, post-doctoral students and Research Associates
- from the host institution/university

Doctoral students:

Sl. No	Name of Research Student	Topic of Research	Name of Faculty Member
1	Dhanya A.T.	Development of core shell nanopectin for control delivery	Dr. S. Sudheesh
2	Joby Jose	Studies on anticarcinogenic properties of selected flavanoids and their bioavailability and biodegradation	Dr. S. Sudheesh
3	Rajeesh	Synthesis, characterization and application studies of smart materials containing rare earth elements in organic solar cell sensor devices.	Dr. K .R. Haridas
4.	P.V. Rajitha	Synthesis and characterization of organic dyes for application in dye sensitized solid state solar cell .	Dr. K .R. Haridas
5	Swapna M.V.	Synthesis of nanoporous semiconductor material for application studies in solar cell	Dr. K .R. Haridas
6	Shahid A.P.	Development of technology of radiation sterilized herbal plaster	Dr. S. Sudheesh
7	Soumya K	Studies on protective role of selected flavonoids on induced DNA damage	Dr. S. Sudheesh
8	Jesna James	Application of Zein-pectin coreshell nanoparticle in the delivery of flavonoids as antioxidant agents	Dr. S. Sudheesh
9	Sheena Kuriakose	Synthesis, Characterization and application of Oxygen containing heterocycles as dyes for organic photovoltaics	Dr. K .R. Haridas
10	Muhamad Niyaz	Design , Synthesis and characterization of poly aryl amines and their applications in optoelectronic devices	Dr. K .R. Haridas
11	Keerthi Mohan A	Fabrication of photovoltaic devices with benzimidazole based hole	Dr. K .R. Haridas

		transporting materials	
12	Saritha C	Synthesis and characterisation of carbazole based hole transporting materials for applications in photovoltaic cells	Dr. K .R. Haridas
13	Soumya M K	Synthesis and characterization of Oligotriphenyl amines for application in organic solar cells	Dr. K .R. Haridas

- b) from other institutions/universities : Nil
40. Number of post graduate students getting financial assistance from the university: Nil
41. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology: Nil
42. Does the department obtain feedback from
- Faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback?
Yes Through discussion in the department council.
 - students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback?
Through discussion in the department council.
 - alumni and employers on the programmes offered and how does the department utilize the feedback?
Through discussion in the department council.
43. List the distinguished alumni of the department (maximum 10)
1. Dr. Sudheesh Kumar PT – PDF at Australia
 2. Dr. Ajesh P Thomas - PDF at US
 3. Dr. Rajesh –PDF at VIT Vellore
 4. Dr. Rajeevan- PDF at Germany
 5. Dr. Sanoj Rejinold – PDF at South Korea
 6. Jithesh K, Asst Professor, S.N. College Kannur
 7. Nisha V K Asst Professor, Payyanur College, Payyanur
 8. Renjusha Asst Professor, Payyanur College, Payyanur
 9. Rajeesh P Asst Professor, Nehru College, Kanhanad
 10. Ayisha Roshni Doing PhD at Belgium
44. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.
MSc student and Research Scholars jointly organise special lectures, seminars, celebrate national sciences day etc
45. List the teaching methods adopted by the faculty for different programmes.
Black board, LCD, Internet etc
46. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?
Dept. Council monitor the programme once in a Semester.
47. Highlight the participation of students and faculty in extension activities.
Nil

48. Give details of “beyond syllabus scholarly activities” of the department.

Organised Invited Lectures.

49. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details.

The programmes are the approved programmes of Kannur University which in turn are approved by other universities and govt. agencies like Public Service Commissions.

50. Briefly highlight the contributions of the department in generating new knowledge, basic or applied.

51. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.

Strength

1. Good teaching environment
2. Good library
3. Good laboratory
4. Curriculum is updated with national level curriculum

Weaknesses

1. Lack of permanent faculty
2. Lack of computers
3. Lack of enough space in class rooms
4. Lack of Permanent laboratory Assistant

Opportunities

1. Interactions with National and reputed Research Institutions
2. Opportunity in industry and pharmaceutical laboratories

Challenges

1. Non availability of talented and highly motivated students
2. Lack of awareness of parents.

52. Future plans of the department.

Whenever minimum number of faculty (6 members) are being filled, we are planning to apply (Minimum 5 members required to apply) for financial assistances to UGC/ SAP, DST/FIST, to conduct international seminars/ workshops, external research projects etc. Also plan to propose diploma in Nanomaterials (Duration : 1 year) course