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The Annual Quality Assurance Report (AQAR) of the IQAC

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

AQAR for the year (for example 2013-14)

2015-16

I. Details of the Institution

1.1 Name of the Institution

Karunya Institute of Technology and Sciences

1.2 Address Line 1

Karunya Nagar

Address Line 2

Mathuvarayapuram

City/Town

Coimbatore

State

Tamil Nadu

Pin Code

641114

Institution e-mail address

vc@karunya.edu

Contact Nos.

0422-2614310, 9487846503

Name of the Head of the Institution:

Dr. M. J. Xavier
Vice Chancellor

Tel. No. with STD Code:

0422-2614310

Mobile:

Name of the IQAC Co-ordinator:

Mobile:

IQAC e-mail address:

1.3 NAAC Track ID (For ex. MHCOGN 18879)

OR

1.4 NAAC Executive Committee No. & Date:
(For Example EC/32/A&A/143 dated 3-5-2004.
This EC no. is available in the right corner- bottom
of your institution's Accreditation Certificate)

1.5 Website address:

Web-link of the AQAR:

For ex. <http://www.ladykeanecollege.edu.in/AQAR2012-13.doc>

1.6 Accreditation Details

Sl. No.	Cycle	Grade	CGPA	Year of Accreditation	Validity Period
1	1 st Cycle	B	2.70	2014	5 years
2	2 nd Cycle	B	2.91	2016	5 years*
3	3 rd Cycle				
4	4 th Cycle				

*re-assessment.

1.7 Date of Establishment of IQAC: DD/MM/YYYY

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

- i. AQAR 2014-15 submitted to NAAC on 29.09.2015
- ii. AQAR 2013-14 submitted to NAAC on 31.10.2014
- iii. AQAR 2012-13 submitted to NAAC on 28.09.2013
- iv. AQAR 2011-12 submitted to NAAC on 29.09.2012
- v. AQAR 2010-11 submitted to NAAC on 28.09.2011

1.9 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 ☐

(eg. AICTE, BCI, MCI, PCI, NCI)

Type of Institution Co-education ☒ Men ☐ Women ☐

Urban ☐ Rural ☒ Tribal ☐

Financial Status Grant-in-aid ☐ UGC 2(f) ☐ UGC 12B ☐

Grant-in-aid + Self Financing ☐ Totally Self-financing ☒

1.10 Type of Faculty/Programme

Arts ☒ Science ☒ Commerce ☐ Law ☐ PEI (Phys Edu) ☒

TEI (Edu) ☐ Engineering ☒ Health Science ☒ Management ☒

Others (Specify)

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

Deemed to be University

1.12 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	Applied
UGC-Innovative PG programmes	-	Any other (Specify)	-
UGC-COP Programmes	-		

2. IQAC Composition and Activities

2.1 No. of Teachers	4
2.2 No. of Administrative/Technical staff	6
2.3 No. of students	2
2.4 No. of Management representatives	1
2.5 No. of Alumni	3
2. 6 No. of any other stakeholder and community representatives	2
2.7 No. of Employers/ Industrialists	2
2.8 No. of other External Experts	-
2.9 Total No. of members	20
2.10 No. of IQAC meetings held	1

2.11 No. of meetings with various stakeholders: No. Faculty
 Non-Teaching Staff 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. International National State Institution Level

(ii) Themes

1. National Seminar on nutrition and food safety
2. Protein modelling through python programming
3. Application of Mathematics to Biology
4. Next Generation Sequencing data
5. Mapmygenome - Personalizing Your Healthcare
6. 3D game design
7. Photography and editing
8. Tribal education
9. Converging biotechnology innovation in health, food and environmental welfare.
10. Water quality analysis treatment, techniques and instrumentation
11. Orientation programme on Biotechnology and its applications.
12. International conference on Canadian Studies: Theory and Practice
13. National Level Seminar on Empowered and Marginalised Women in Media and Literature.
14. Importance of learning human anatomy & physiology
15. Various Systems in Human body, Ear and Auditory Pathways, Modelling and Control
16. Seminar on Climate change and its impact on Human Health & Environment
17. Innovative Materials and Techniques in Civil Engineering
18. National Workshop on Optimization Techniques for Electrical Engineering Applications
19. National Workshop on Control of Electric Drives with Advanced Power Converters
20. Electric Circuit and Networks Quiz Competition
21. Electromagnetic fields and Networks Quiz Competition
22. Circuit Debugging
23. Google tech
24. Signal and Image Processing, Networking, Communication Systems, Embedded Systems, VLSI Design, Characterization Techniques
25. Latex workshop
26. Job Opportunities for Civil Engineers in Abroad

- | |
|---|
| 27. Workshops on Mobile App development, Web Designing, Soft computing and Cloud Setup,
28. Unmanned Aerial Systems and Composite Materials in Aerospace applications,
29. National Symposium on shock waves Workshop on open stack hands-on
30. Hands on Training in Organic Reaction monitoring: TLC, HPLC and IR
31. Workshops on MBA Simulation tool , Financial Derivative, Career Prospects in Finance, Tools and Techniques for Operational Excellence
32. SPSS Workshop
33. Workshop on Concrete Mix Design |
|---|

2.14 Significant Activities and contributions made by IQAC

1. Best Department Awards to four departments (I Place 2, II Place 2 and III Place 1) were given.
2. Performance analysis of schools and departments was carried out.
3. The Academic Audit panel was formed by the Vice Chancellor for conducting Academic Audit and the recommendations were scrutinized by the Vice Chancellor.
4. Analysis of External Academic Audits carried out.
5. Green Audit and Gender Audit were conducted.
6. Analysis of External Research Audit carried out. Suggestions were given for improving the quality of academic research.
7. Training sessions were conducted for faculty members on the use of Learning Management System.
8. NBA expert team visit during 11th September 2015 to 13th September 2015 for the Department of Civil Engineering and Department of Mechanical Engineering.
9. NAAC Peer Team visited our campus on 5-7 May 2016 and accredited with a CGPA of 2.91 and awarded with 'B' grade.
10. IQAC in collaboration with different schools in the University has revamped the teaching and research laboratories with a generous funding of the Management, in accordance with the recommendations of the NAAC Committee.
11. IQAC worked along with the Library Committee in expanding the Library space from 10300 sq.ft. to 32149 sq.ft. which has increased its seating capacity by three times.
12. Library subscription for online e-journals has been increased to 2531 journals.
13. Library has newly designed a separate study circle for Civil Services and other competitive exams such as GATE, GRE, etc.,
14. The University took a major step to remove the asbestos roofing and have replaced with puffed galvalume roofing for both 3000 seater as well as 1500 seater auditorium with extra amenities such as LED display, better ventilation and better lighting.
15. IQAC in collaboration with the School of Computer Science and Technology has established the IBM Centre of Excellence and installed 32 terminals to initiate Hadoop Big Data Analytics acquired from IBM.
16. IQAC in collaboration with the School of Mechanical Sciences has renewed MoUs with CMTI, Bangalore and FCRI Palakkad, a new M.Tech. Course in Advanced Manufacturing Technology has started from 2015-16 in collaboration with CMTI, Bangalore in addition to the PG Diploma in Advanced Manufacturing Technology.
17. IQAC initiated to provide Seed Money to the Faculty members and Students to the tune of Rs.12.34 lakhs during the academic year 2015-16.
18. Awareness Programme on Nanotechnology for school students.
19. Familiarization workshop on Nanotechnology for external participants from different colleges.

20. Workshop to promote MSc Course and to showcase the research facilities of the department for possible consultancy and income generation.
21. Hands on Experience to prepare Cleaning Solution and soap for tribal women in Thondamuthur block.
22. The Department of Food Processing & Engineering, Karunya University in collaboration with PFNDIAI (Protein Foods and Nutrition Development Association of India) organized a national seminar to deliberate on the theme for the World Food Day. Social protection and Agriculture. The seminar aims to underline the role social protection plays in reducing chronic food insecurity and poverty by ensuring direct access to food or the means to buy food. Events hosted during the celebrations include: Quiz, Poster, Recipe Making Calendar Making
23. IGS chapter was inaugurated in the Department of Civil Engineering.

2.15 Plan of Action by IQAC/Outcome

The plan of action chalked out by the IQAC in the beginning of the year towards quality enhancement and the outcome achieved by the end of the year *

Plan of Action	Outcome
1. NBA accreditation for a few programmes and NAAC re-assessment.	NBA Team visited the Department of Civil and Mechanical Engineering on 11-13 Sep.2015 and accreditation obtained for 3 years. NAAC Peer Team visited the campus on 5-7 May 2016 for reassessment and awarded 'B' grade.
2. Establishment of TRIBES (Translational Research Institute for Biomedical and Engineering Sciences)	Projects were submitted to various funding agencies with the tune of 40 crores for the establishment of TRIBES.
3. Placement for more number of passing out students in relevant industries with higher salary.	1158 students out of 1611 eligible students got placement. An increase in placement by 21% compared to last year was achieved.
4. Expansion of the Central Library to provide more space for students to read.	Central Library is expanded with a total area of 32149 sq.ft. with an increase of 3 times.
5. Expansion of the Computer Technology Centre to accommodate many labs for conducting online internal tests.	Computer Centre is expanded with a total number of 2132 computers.
6. Face-lift to all laboratories attached to departments by procuring sophisticated equipments.	Facilities in Department specialized labs were improved.

7. Making Ph.D. / M.Phil. Regulations more stringent to increase the output quality of Ph.D. scholars in terms of publications and by introducing comprehensive viva voce.	Ph.D. M.Phil. Regulations were modified by the CoE.
8. Academic Audit, Research Audit, Green Audit and Gender Audit to be conducted	External Academic Audit, Green Audit and Gender Audit were conducted and the suggestions were implemented.
9. Best Researchers awards, Achievers Award and Best Department Awards to be given for motivating faculty members.	Best Researcher Award, Achievers Award (those who got funded research project) and Best Department Awards were distributed
10. Performance analysis of all schools and departments to be conducted.	Performance analysis of all departments were conducted and based on the IQAC score best departments were awarded with certificates and shields.

* Enclosed the Academic Calendar as in Annexure - i

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

Management ☒ Syndicate ☐ Any other body ☒

Provide the details of the action taken

AQAR of 2015-16 was placed in the Standing Committee of the Academic Council held on 9.8.2016

The comments to be received from the Academic Council members.

1. The initiatives taken by the University regarding academic staff college and e-governances were appreciated.
2. Initiatives on lecture capturing system, awards given to faculty, industry advisory board are also well applauded.
3. It was suggested to arrange Webinars on industrial courses which facilitate the sharing of knowledge.
4. The achievements in sports and games were also well commended.
5. The importance of uniform branding in all Karunya presentations was emphasized.
6. It was suggested to form a subcommittee which will determine the reasons for the poor performance of students with the help of IQAC. The suggestions of the committee may be implemented to improve the pass percentage.
7. It was also suggested to process the starting of new programmes through IQAC

Part – B

Criterion – I

1. 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	19	-	All our programmes	-
PG	26	-		1
UG	17	-		8
PG Diploma	2	-		-
Advanced Diploma	-	-		-
Diploma	-	-		-
Certificate	-	-		7
Others	-	-		-
Total	64	-		16
Interdisciplinary	-	-	-	-
Innovative	-	-	-	-

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

(ii) Pattern of programmes:

Pattern	Number of programmes
Semester	63
Trimester	1
Annual	-

1.3 Feedback from stakeholders* Alumni Parents Employers Students

(On all aspects)

Mode of feedback : Online ☒ Manual ☒ Co-operating schools (for PEI) ☐

**Please provide an analysis of the feedback in the Annexure (Pl. refer Annexure ii)*

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

Yes. The syllabus is reviewed twice a year. The revamping is done periodically after taking into consideration the feedback from all the stakeholders such as alumni, employers, industry and academic experts from educational institutions.

- From 2013 onwards we are into a scheme of CBCS pattern.

- The syllabi of I B.Tech. courses has been revised based on the basic requirements of the Engineering fields
- Curriculum has been revamped to enable activity oriented and project based learning, which helps the students to get oriented and trained towards employability
- Mini projects are being incorporated for better understanding of the concepts in the courses.
- Course objective and course outcome have been modified for each course

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

1. Pearson VUE authorized Test Centre

The School of computer science and Technology became an authorized Pearson VUE Testing centre. The students who are successfully completing the certification courses such as CCNA, OCA, OCP, OCPJP and NCLP can write their industry examination in the campus itself. Through this centre, 68 various industrial certification examinations were conducted.

2. Structural Vibration Control Research Centre

Structural Vibration Control Research Centre is established in collaboration with Mithran Structures, Coimbatore. Three Ph.D. scholars from the Industry are doing their research in the application of low cost MR Dampers in multi-storeyed buildings.

Criterion – II

2. Teaching, Learning and Evaluation

2.1 Total No. of permanent faculty

Total	Asst. Professors	Associate Professors	Professors	Others
430	348	40	37	5

2.2 No. of permanent faculty with Ph.D.

179

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
18	0	3	0	5	0	0	0	26	0

2.4 No. of Guest and Visiting faculty and Temporary faculty

0

5

0

2.5 Faculty participation in conferences and symposia:

No. of Faculty	International level	National level	State level
Attended	103	171	31
Presented papers	118	74	0
Resource Persons	30	76	4

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

Learning Management System, Institute-Industry interaction, Industrial Visit, Quality Assessment, E-Assignment, supply of subject materials through soft copy are some of the innovative practices adopted by the Institution. Besides these methods, the faculty uses the following methods.

- Sharing the Teaching Materials, Lecture Videos (NPTEL videos and videos from Google and YouTube) Question Bank, and recent updates related to the subjects through courses.karunya.edu.
- Visits arranged to trade fairs and technical exhibition related to subject areas to know the real time trends.
- Mega Courses for students from different batches to get the same level of knowledge and expertise in particular course.
- Web references included in the teaching plan for the students to get additional technical input.
- Mini-project as a part of lab experiments.
- In-Plant training, Internship and Outbound training
- Collaborative Learning - Group Discussion, Puzzle based, Cross words, Quiz, Case study

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

180

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

CBCS Scheme of Assessment:

Unique methods of evaluation have been evolved to take account of certain traits which do not surface in a classroom education, like professional judgment, decision making, interdisciplinary approach, initiative, leadership, sense of responsibility, etc. The system discards the conventional emphasis on a single final examination and numerical marks as the absolute indication of the quality of student's performance. Thus, at the end of the semester letter grades, O, S, A, B, C, P and R are awarded to the student based on the total performance of the student. These letter grades stand for quality of performance and also associated with points in a quantified hierarchy as given below:

O – Outstanding (10), S – Excellent (9), A – Very Good (8) B – Good (7), C – Satisfactory (6), P – Pass (5) and R – Reappearance Required (0)

Continuous assessment marks will be awarded on the basis of continuous assessment made during the semester for Theory, Practical, Part-semester Project and Full-semester Projects, as per the guidelines issued from time to time with the approval of Chairman, Academic Council. This continuous assessment is based on the sessional work and consists of class tests, Internal examinations, homework, assignments, term paper, seminars, course related projects, etc. Absence from these or late submissions will result in loss of marks.

End Semester Examination:

The end semester examinations are to be scheduled between 93rd working day and 100th working day for programs under semester pattern. For PG programs with trimester pattern (KUBS), the end semester examinations are to be scheduled between 63rd working day and 70th working day.

Theory Courses

The question paper for all the theory courses will contain 5 questions of 20 marks each. One question will be compulsory question and other will consist of 4 pairs of questions with either or choice.

The students registered for the same course will appear for a common End Semester examination.

Practical, Part-semester Project and Full-semester Projects: Faculty who conducted the practical / the Supervisor of the Project along with an expert from KU to be appointed by the HoD will conduct the end semester examination.

Industrial training / Mini-project / Internship: Two experts (one can be supervisor) from KU to be appointed by the HoD will conduct the end semester examination for 100 marks

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

267	37	139
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2.10 Average percentage of attendance of students

89.66

2.11 Course/Programme wise distribution of pass percentage:

Title of the Programme	Total no. of students appeared	Division				
		Distinction %	I %	II %	III %	Pass %
UG	1545	19.74	73.20	0.71	-	93
PG	503	38.36	52.08	1.39	-	99.40

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

- IQAC conducts a rigorous Academic Audit using the external experts from premier institutions every semester.
- In this process, the course files of the theory and laboratory courses of all the faculty members are being evaluated to a scale of maximum of 40 marks.
- In this, the external auditors also give their comments regarding each course file which are being collected by the IQAC.
- These reports are studied and the critical comments are being discussed with the HoDs/Programme Co-ordinators for improvement.
- For the even semester of academic year 2015-16, the IQAC has initiated Internal Academic Audit using Department IQAC Co-ordinators before the external audit.
- The comments are passed on to the HoDs/Programme co-ordinators before the external academic audit.
- The IQAC also ensures whether the critical comments are addressed in the subsequent academic audit.

2.13 Initiatives undertaken towards faculty development

Faculty / Staff Development Programmes	Number of faculty benefitted
Refresher courses	30
UGC – Faculty Improvement Programme	2
HRD programmes	109
Orientation programmes	38
Faculty exchange programme	2
Staff training conducted by the university	152
Staff training conducted by other institutions	51
Summer / Winter schools, Workshops, etc.	178
Others	-

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	165	0	0	0
Technical Staff	72	0	1	0

Criterion – III

3. Research, Consultancy and Extension

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

- Initiated Professional development account scheme
- Initiated Karunya Short term research grant (Seed Money) for the projects of students and faculty members.
- Four research groups have been formed based on the thrust areas identified by the University namely **food, water, healthcare and energy**, wherein the faculty members can share/incubate state of art technologies in their areas of interest. Faculty members are also encouraged to carry out research on the above thrust areas.
- The participation of faculty members in workshops/seminars/conferences outside our university to update their knowledge in the recent trends is being documented and the departments are alerted for necessary progress.
- Faculty members who excelled in their research and obtained funded projects from the various agencies viz. DST/MNRE/DBT, etc. were honoured with Achievers Award by IQAC there by inspiring the departments to offer research oriented projects to the students to kindle research activities.
- Every Department has a Quality Assurance Cell for continuously updating information required for the IQAC at the central level.
- Scopus indexed and Web of Science publications were made mandatory to account for the publication data base.
- The IQAC initiates the Best Department Award based on the performance analysis made by IQAC.

3.2 Details regarding major projects

	Completed	Ongoing	Sanctioned	Submitted
Number	16	25	14	66
Outlay in Rs. Lakhs	321.95 lakhs	963 lakhs	753.42 lakhs	1569.09 lakhs

3.3 Details regarding minor projects

	Completed	Ongoing	Sanctioned	Submitted
Number	3	12	3	2
Outlay in Rs. Lakhs	10.93 lakhs	20.92 lakhs	11.65 lakhs	US\$.10000

3.4 Details on research publications

	International	National	Others
Peer Review Journals	250	2	0
Non-Peer Review Journals	12	2	0
e-Journals	16	1	0
Conference proceedings	146	43	11

3.5 Details on Impact factor of publications:

Range Average h-index Nos. in SCOPUS

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 lakhs	Received In lakhs
Major projects	2015-16	NIRNE ICMR,DST MNRE,NSE NTRFTB UBCHE SERB TSDP	780.21	221.82
Minor Projects	2015-16	SERB, UBCHE	11.65	11.65
Interdisciplinary Projects	2015-16	UGC, IETE	58.98	15.3
Industry sponsored	2015-17	Covenant IT Group	30 lakhs	14 lakhs
Projects sponsored by the University/ College	2015-16	KU	7.83	7.64
Students research projects <i>(other than compulsory by the University)</i>				
Any other(Specify)				
Total				

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

ii) Without ISBN No.

3.8 No. of University Departments receiving funds from

UGC-SAP CAS DST-FIST
DPE DBT Scheme/funds

3.9 For colleges Autonomy CPE DBT Star Scheme
INSPIRE CE Any Other (specify)

3.10 Revenue generated through consultancy

3.11 No. of conferences organized by the Institution

Level	International	National	State	University	College
Number	3	3	2	-	-
Sponsoring agencies	EEE,IETC DBT,IAFCS Ganapathy Silks	DBT KU	DST ICMR	-	-

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

3.13 No. of collaborations International National Any other

3.14 No. of linkages created during this year

3.15 Total budget for research for current year in lakhs:

From Funding agency From Management of University/College
Total

3.16 No. of patents received this year

Type of Patent		Number
National	Applied	11
	Granted	-
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
40	17	8	1	13	0	1

3.18 No. of faculty from the Institution who are Ph. D. Guides
and students registered under them

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

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

JRF SRF Project Fellows Any other

3.21 No. of students Participated in NSS events:

University level	1545	State level	10
National level	-	International level	-

3.22 No. of students participated in NCC events:

University level	25	State level	13
National level	11	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	2	State level	-
National level	8	International level	-

3.25 No. of Extension activities organized

University forum	739	College forum	3
NCC	8	NSS	10
		Any other	12

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

1. No. of students participated : 3600
2. No. of faculties involved : 320
3. No. of programmes conducted : 370
4. Special activity conducted

Karunya Food Carnival:

- 5000 Students and Staff participated and contributed.
- **Rs. 14,85,000** raised and disbursed as scholarship for **168 KU students and 68 School Students.**

Chennai Flood Relief Camp (7th to 11th December 2015)

- 50 Members Team visited the flood affected areas in Chennai City.
- Fund Raised **Rs. 13,72,714/-**
- Reached 13 flood affected areas and distributed basic materials (Toiletry items, bed sheet, towel, milk, medicine, torch light, bread & jam...etc)

School kit distribution to needy Tribal children

- **500 School Kit** bag distributed to the needy rural children.

Free Bench & Desks distribution

- **700 furniture items** distributed to adopted Schools and villages worth of **Rs. 10,00,000/-**

Noyyal River Restoration Rally

- Awareness rally Noyyal Restoration and Importance of Water Conservation in associated with 'Siruthuli' organization
- 1000 students participated.
- Participated in Noyyal Restoration Project – Inauguration Ceremony
- Chief Guest: **Mr. Anna Hazare**

International Women's Day Rally at Coimbatore City

- A Rally on "Women's Rights" conducted in Coimbatore City. **Ms. Nisha Parthipan, IPS**, Asst. Commissioner of Police inaugurated the Rally. About 1000 students participated in the rally.
- Women Empowerment programme conducted for our female faculty members on 8th March 2016 at Elohim Auditorium. Mrs. Minu, I.R.S., Dy. Commissioner of Income Tax shared her experiences as a resource person.

Spiced Butter Milk Stall for local villagers and tourists.

- The local and the tourists were served with Spiced Butter Milk with an aid of a stall during the summer from 02nd to 09th May 2016 in front of Bethesda Main gate in association with BIPC, SEESHA and KU Residencies. Around **1200 cups per day were distributed at free of cost.**
- Republic Day was celebrated in 10 schools, Little Hearts (Orphanage Home), Mundanthurai village and SEESHA Old Age Home. More than 3000 students and 200 villagers benefitted.

Community Health Programmers:

- Free Eye, Dental and General Medical Camp at Thombilipalayam village and around 10 km radius in collaboration with SEESHA and Lotus Eye Hospital.
- Blood donation camp conducted in association with Coimbatore Medical College Hospital and Shanthi Social Service (NSS & YRC)

Environmental Development Programmers

- In view of Dr.APJ Abdul Kalam's birthday, tree saplings were distributed to all staff of Karunya University and village people.
- Tree plantation conducted in nearby villages and in KU grounds

Academic Activities

- A paper titled "EXTENSION AND PERSONALITY DEVELOPMENT" for first year B.Tech Students was presented in Academic Council and included in the curriculum.

5. External Funds

: US\$ 31,000

SN	Project Title	Funding Agency	Amount
1	Training and capacity building of school children, tribal community and villagers in health, food nutrition and environmental aspects in the villages around Karunya University	United Board for Christian Higher Education in Asia	USD 26,000 (3 years duration)
2	Strengthening Campus community connections through service learning	United Board for Christian Higher Education in Asia	USD 5000

6. Collaborations:

- ICT Academy of Tamil Nadu – Advanced Skill Development Programme for students and staff
 - Skill development programme was conducted during the last week of June for faculty.
 - Skill development programme was conducted in adopted villages for unemployed youth since July 2015 (Banking Service, Retail Service and Welding, Plumbing, Computer Aided programme, Digital India programme, etc)
- Preliminary steps taken to collaborate with "PuthuValzvu Thittam" to provide skill development programme for rural youth.
- Preliminary steps taken to conduct extension activities in association with the parents of EMHSS alumni.
- In association with Siruthuli 'cleaning campaign' and future projects for Noyyal Restoration were conducted.

7. Training Programme:

- Conducted a Hands-on-Training programme on the preparation of Soaps, Cleaning Solutions, etc, for the unemployed women and Self Help Group women in associated with Department of Chemistry on 13th December 2015.

- In association with SEESHA, Vocational Training Club of CEA conducted a training sessions on “soap making, washing powder making” and “jewellery making”, etc for village people.
- Music Instruments (Violin, Guitar and Keyboard) training programme was conducted for our students. A total no. Of 119 students appeared for Grade Examinations conducted by Trinity College of London.

8. Awards:

- **NIRF** 5th Rank in outreach category among 1431 Colleges in India.
- **Best University Serving Social Cause** in India. Awarded by ASSOCHAM.
- The **Best Blood Donation Camp** for the year 2014 by District Collector, Govt. of Tamil Nadu. Award received from Coimbatore District Collector on 15th December 2015.
- **Guinness Record** for participating in the Largest Recycling Lessons attended by 12,994 participants from Karunya University organized by Coimbatore Municipal Corporation (India) in Coimbatore, Tamil Nadu, India. The Award was received on March 10, 2016.

Criterion – IV

4. Infrastructure and Learning Resources

4.1 Details of increase in infrastructure facilities:

Facilities	Existing	Newly created	Source of Fund	Total
Campus area	720 acres	-	KITS	720 acres
Class rooms	194 (15622 sq.m.)	-	KITS	194 (15622 sq.m.)
Laboratories	83 (16493 sq.m.)	-	KITS	90 (16493 sq.m.)
Seminar Halls	19 (3704 sq.m.)	-	KITS	19 (3704 sq.m.)
No. of important equipments purchased ($\geq$ 1-0 lakh) during the current year.	6198	41	KITS	6239
Value of the equipment purchased during the year (Rs. in Lakhs)	5338.21 lakhs	563.32 lakhs	KITS	5901.53 lakhs
Others	-	-	-	-

4.2 Computerization of administration and library

4.2 Computerization of administration library

The Central Library

The Central library is housed in three story building with centralised air condition and well equipped with modern facilities and resources in the form of CD-ROM, On-line databases, e-journals, e-books, audio video cassettes, books, journals, project reports etc. The Library home page provides electronic access to various full text and bibliographical databases. Links from the home page gives information on library policies, hours, collections and services. The mission of the Central library is to provide information services and access to bibliographical and full text digital and printed resources to support the scholarly and informational needs of the Institute user community.

Digital Library

In addition to the above, the 'Digital Library' with 30 PCs and 3 touch display kiosk with broad-band hi-speed Internet connection with Wi-Fi enables users to access and download information. The access to 3700 CD-Rom database collection is enabled through a server to all computers. The Library is a member of DELNET, which provides access to more than one million records globally and article services. Intranet library web portal is created to provide online e-services.

4.3 Library services:

	Existing		Newly added (2015-2016)		Total	
	No.	Value Rs.	No.	Value, Rs.	No.	Value, Rs.
Text Books	71278	1,44,29,045.50	16123	80,64,029.00	87401	2,24,93,074.50
Reference Books	5355	1,39,56,960.00	532	10,10,939.00	5887	1,49,67,899.00
e-Books	930	11,59,000.00	-	-	930	11,59,000.00
Journals	6943	1,59,02,397.00	395	1,75,368.00	7338	1,60,77,765.00
e-Journals	Science direct -883 Springer - 586 EBSCO - 800 Scopus (Abstract) IEEE - 161	2,38,39,799.00	Science direct -883 Springer - 586 EBSCO - 800 Scopus (Abstract) IEEE - 161	75,73,708.00	Science direct - 883 Springer - 586 EBSCO - 800 Scopus (Abstract) IEEE - 161	3,14,13,507.00
Digital Database	-	-				
CD & Video	3528	3,55,800.00	172	18,920.00	3700	3,74,720.00
Others (specify)	-	-				

4.4 Technology up gradation (overall)

	Total Computers	Computer Labs	Internet	Browsing Centres	Computer Centres	Office	Depart-ments	Others
Existing	2132	19	200 Mbps	21	4	1		
Added	6	0	0	0	0	0		
Total	2138	19	200 Mbps	21	4	1	0	0

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

1. Workshops on Mobile App development, Web Designing, Soft computing and Cloud Setup
2. Analysis of Algorithm Unmanned Aerial Systems, Composite Materials in Aerospace applications
3. National Symposium on shock waves was conducted.
4. Workshop on open stack hands-on was conducted.
5. Workshop on Setting up private cloud was conducted
6. Hands on Training in Organic Reaction monitoring: TLC, HPLC and IR were conducted.
7. Workshops on MBA Simulation tool, Financial Derivative, Career Prospects in Finance, Tools and Techniques for Operational Excellence, SPSS Workshop were conducted.
8. Workshops on Game design, Photography, editing, tribal education were conducted.
9. Workshop on Concrete Mix Design 11th -13th April 2016 by Er. E. Venkat Veeresh Ray Contractors, Hyderabad was conducted.

4.6 Amount spent on maintenance in lakhs:

i) ICT	49.80
ii) Campus Infrastructure and facilities	713.54
iii) Equipments	65.93
iv) Others	117.88
Total:	947.15

Criterion – V

5. Student Support and Progression

5.1 Contribution of IQAC in enhancing awareness about Student Support Services

- IQAC in collaboration with the Central Library has instituted a Study Circle with a special collection of books for UPS, GATE, TOFEL, GRE, etc. This facility is mainly for the benefit of student community who prepare for competitive exams.
- The activities of the career guidance cell of the department viz. general aptitude and technical aptitude training for pre-final year students were documented and appreciated.
- The departments were enlightened to conduct Technical day and mock interviews for the final year students.
- Special Coaching classes were suggested and implemented for giving support to the students who are academically weak.
- Based on the outcome of the External Academic Audit conducted by IQAC, CBCS office conducted a revamping exercise and introduced a new model for Continuous Assessment System for all I and II year students.

5.2 Efforts made by the institution for tracking the progression

- Regular Alumni meet in India as well as in abroad and through ALMA CONNECT (web based forum)
- The alumni coordinators in touch with the Alumni through social media and track their progression.
- Separate face book links for department to track the Students /Alumni.
- Created student -faculty WhatsApp group to discuss science related articles
- Mentoring system to track and assist the students' progression in Academics and Placements. The improvement in placement over the years has been commendable.
- Systems to motivate students in pursuing higher studies in abroad universities with necessary recommendations.
- Data on GRE score, TOEFL score, University and country applying, personal address being collected from the graduates. Some of the top abroad Universities in which our graduates pursue/pursued are University of Nevada, Reno, University of Illinois Chicago, University of Derby, University of Michigan, Ann Arbor, etc.

5.3 (a) Total Number of students

UG	PG	Ph. D.	Others
6140	1093	547	1

(b) No. of students outside the state

3722

(c) No. of international students

43

Men	No	%
	5046	64.86

Women

No	%
2735	35.14

Last Year						This Year					
General	SC	ST	OBC	Physically Challenged	Total	General	SC	ST	OBC	Physically Challenged	Total
3399	332	150	4110	0	7991	3162	294	141	4184	0	7781

Demand ratio 1.92:1

Dropout %: 1.78

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

- Online Tests on non-verbal, reasoning and aptitude are being conducted in our computer centre by “Centre for Placement and Training” (CPT) for improving the students’ standard. The online tests for final year students include technical questions which helps them to improve their performance in IT as well as in Core Industries and also for exams such as GATE, IELTS and BEC exams.
- Comprehensive Practice with Multiple Choice Questions (Based on the GATE examination pattern for 100 marks - test1 -50M and test 2-50M) has been introduced as compulsory course for all the pre final year students. Students are assessed both in internal as well as end semester exam.
- The Quality Assessment tests for second year students also include the technical questions which help the students to improve their performance in interview of Core Industries and also for all other competitive exams.
- The LMS web portal serves as a good platform for the students who want to train themselves for competitive exams. Students can undergo online examinations, separate logins are provided for each and every student. Moreover, to make the students to get through the competitive examinations, solved question papers are available in the Institute’s LMS website, uploaded by faculty members. They also have the option to undergo online test, QUIZ and do self-evaluation
- In addition to the subjects pertaining to the courses, materials are also available for the students in Department library and Main library to get through the competitive exams.
- GATE coaching classes are conducted for pre-final and final year students and also encouraged them to appear for GATE examination. The department of Civil Engineering has tied up with Terzhagi Institute, Chennai for GATE coaching.
- Association Club. National Merit Scholarships are also available along with Post Graduation Scholarship to GATE qualifiers.
- Periodic mock tests for placement preparatory exams are conducted for the benefit of the students.

No. of students beneficiaries

1800

5.5 No. of students qualified in these examinations

NET	-	SET/SLET	-	GATE	65	CAT	2
IAS/IPS etc	-	State PSC	-	UPSC	1	Others	32

5.6 Details of student counselling and career guidance

- GATE coaching classes are conducted for all final year and pre-final year students.
- Personal guidance, on both academic and non-academic matters, to the students through mentoring in the department.
- The Career Guidance Cell provides comprehensive services in the area of training, options regarding higher studies, internships and full-time placements for both undergraduate students and post-graduate students.
- The students are being mentored on several aspects like personal, physiological, social and Career advancement since the time of their admission.
- TA/GA classes, Arrear coaching classes, Inplant training, Mini projects, Mentoring, Mock Interview are conducted.
- The students aspiring to do higher studies are sent to different faculty those who have relevant exposure to get an idea on the path they should take.
- Students having interests in specific areas are referred to industrial experts those who absorb them into their workforce on the recommendation of the staff.
- Career guidance programme by Hansel Fletcher on 'Career opportunities on higher studies (Biological science)' was organized by the Department of Biotechnology.

No. of students benefitted

1545

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
146	1263	1039	64

5.8 Details of gender sensitization programmes

- A Rally on “Women’s Rights” conducted in Coimbatore City. **Ms. Nisha Parthipan, IPS**, Asst. Commissioner of Police inaugurated the Rally. About 1000 students participated in the rally.
- Women Empowerment programme conducted for our female faculty members on 8th March 2016 at Elohim Auditorium. Mrs. Minu, I.R.S., Dy. Commissioner of Income Tax shared her experiences as a resource person.
- Gender Audit for 2015-16 was conducted.

5.9 Students Activities

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

State/ University level National level International level

No. of students participated in cultural events

State/ University level National level International level

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

Sports: State/ University level National level International level

Cultural: State/ University level National level International level

5.10 Scholarships and Financial Support

	No. of Students	Amount Rs.
Financial support from Institution		
Financial Assistance Karunya Food Carnivel	164	1125063
Financial Assistance Alpha Batch	5	240000
Dr.D.G.S. Dhinakaran Memorial Educational Scholarship	34	816000
	169	1365063
Financial Support from Government		
Govt. of Tamilnadu-AD/SC/ST	44	566950
Govt of Tamilnadu- Special Subsidy	40	320000
Govt of Andhra Pradesh	2	60500
Govt of Karnataka	1	37500
Govt of India Merit Cum Means (Under process)		
	87	984950
Financial Support from other sources		
Sitaram Jinal Foundation	14	160800
Contribution from Alumni 1991-95 batch for helping needy students.	--	50000

5.11 Student organised / initiatives

Fairs	: State/ University level	1	National level	1	International level	-
Exhibition:	State/ University level	6	National level	2	International level	-

5.12 No. of social initiatives undertaken by the students

25

5.13 Major grievances of students (if any) redressed:

GRIEVANCES ADDRESSED DURING 2015 - 16

Type of Grievance	No. of grievances addressed
Academic related issues: Admissions, Examinations, Assessments, Evaluation, Library facilities, Issuance of certificates, Add-on courses, Research related issues, etc.	9
Extension & Extra-curricular: Students club registration, Award of non-academic credits, Physical Education, etc.	2
Amenities & Maintenance: Hostel facilities –Allocation of rooms, Standard of meal, Wi-fi internet connectivity, Utility-stores, Computer facilities, Drinking water , Sanitation & hygiene, Maintenance, Medical facilities, etc.	14
Placements & Internships: On-campus or off-campus interviews, soft skills training, Internships, etc.	2
General administration: Collection of fee–on-line fee payment gateway, CMS/MyKarunya portal, ID cards, Scholarships, HR related issues, Transportation, etc.	19
Other related issues: Safety & Security, Discipline, Misbehaviours, Emergency services, etc.	1
Total	47

Criterion – VI

6. Governance, Leadership and Management

6.1 State the Vision and Mission of the institution

Karunya's Vision

True to its name Karunya which means 'compassion'. Karunya Institute of Technology and Sciences shall be deemed to be a university with a social concern which will address the problems of humanity through teaching, research and extension in socially relevant areas.

The students and faculty of KITS will be imbued with spiritual discernment and a zeal to serve humanity and to eventually become leaders of society.

Karunya's Mission

To accomplish the vision, Karunya Institute of Technology and Sciences – a Christian Minority Institution will be committed to transform lives through the following objectives:

- To raise undergraduate and post graduate students and research scholars to serve humanity by attaining high levels of academic excellence, professional competence, exemplary values and spiritual empowerment.
- To find solutions to human problems in areas relating to Water, Food, Health Care and Energy through scientific, social and technological research as well as policy formulation.
- To set up care homes for physically and mentally challenged as well as the elderly and the terminally ill to enable the students to understand the human needs and pain, by participating in the services rendered to them on campus and thus to dedicate themselves to work towards solving those problems through research, development, policy making at high levels or through providing spiritual care.

6.2 Does the Institution has a Management Information System

Yes, the institution has Campus Management System (CMS). The details are as follows:

One of the important innovations which KITS has introduced is Campus Management System (CMS). **Campus Management System** is a compact package, designed to provide a sophisticated, state of the art web technology, aimed at bringing about total quality in Education management. CMS focuses on excellent coordination between university and students, making e-education scenario "a reality". CMS provides the detailed structure of the KITS and its departments. It covers all aspects of the University, Students, Faculties, Schools / Departments, Assessment Marks, Attendance, Examination Time Table, Results, Placements and other Co – Curricular and Extra - Curricular activities. KITS provides various information about staff and students through

the website: www.karunya.edu

‘mykarunya’ is a new addition to CMS which helps the Faculty members, Parents and Students of KITS to keep track of the day-to-day activities such as Attendance Management, Mentee Management, Management Information System (MIS), Internal Assessment Management, Reports generation etc. The following are some of the highlights and best practices of our user friendly package *mykarunya* System.

1. The process of Course Registration, Student Registration, and Mentee Registration is simplified in *mykarunya* system.
2. The attendance marking system in *mykarunya* is very user friendly.
3. The online leave submission, OD submission, Medical leave submission and their corresponding approvals are decentralized.
4. The change/delete attendance, late attendance entry, internal assessment correction/deletion goes through automated hierarchical approvals.
5. The attendance and the internal marks are transparent and can be viewed by students, parents, teachers and HoDs. This information is also disseminated to parents through SMS.
6. Mentors are provided with an efficient reviewing system for their mentees.
7. A reminder through SMS helps the mentees to enter the attendance on time.
8. Colour coded report facilitates the mentors to easily track the reviewing/status/approval processes.
9. The internal assessment reports can be generated from the *mykarunya* system itself which will then be sent to parents through postal communication.

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

6.3.1 Curriculum Development

- Industrialists, Stakeholders and Alumni are the major contributors towards the development of curriculum. Feedback from students, faculty and the comments of the external academic auditors also form the part of the discussion. Based on their comments, the curriculum were analysed during the curriculum development cell meeting. The outcome of the CDC meeting was presented to the board of studies to look into the matter, analyse and scrutinise the recommendations.
- Based on the framework given, department develop an outline of the proposed programme/course, with details such as course description, course objectives and outcomes, utilisation of the courses, evaluation patterns and references. The experience gained by faculty members as resource persons at conferences, seminars/workshops and also as members of Boards of Studies and Academic Audit Committees in other institutions facilitates the process of revision. The revised courses and syllabi are then discussed at Boards of Studies meetings. The recommendations of the Boards are brought to the Academic Council for its approval.
- Choice Based Credit System is in place. The students have a high degree of flexibility to choose the subjects and their area of specialization through different soft cores offered by the department.
- Course outcomes (COs) were refined wherever it was necessary to help and evaluate the attainment of programme outcomes (POs).

6.3.2 Teaching and Learning

- Mega Course is one of the innovations in Teaching – Learning process. This teaching is held at gallery class room with 180 seater capacity with good lighting air-conditioning and with modern gadgets such as Media Projector and Tablet for clear visibility of teaching module. The expertise of the senior faculty members available is well utilized and the junior faculty members participate as tutors and acquire wide knowledge in the respective subjects.
- Through mega courses, students from different batches get the same level of knowledge and expertise in particular course.
- A learning management system named as course management system is in place in which the learning materials for the courses are uploaded.
- Faculty members are motivated to attend training sessions and programs to enhance their teaching skills and to upgrade in technological advancements. Constant review of testing and evaluation patterns encourages creativity, originality and analytical thinking of students. Also the faculty members are encouraged to provide innovative assessments and thus participatory learning method is implemented among students.
- The teaching and evaluation methodology adopted is based on Bloom's Taxonomy. All the class rooms are equipped with modern ICT facilities.
- Every faculty is maintaining a file for each course, which records syllabus, lesson plan, attendance, evaluation procedures, and student result analysis. The department has a mechanism called Academic Audit in which an external academic expert evaluated the course files submitted by the faculties. The teaching and learning mechanisms are improved based on the Academic Auditing.
- The department has initiated online coding and verification in laboratory subjects such as Programming in Java, Data structures where the results are evaluated using test cases.
- Audio Lectures and Desktop captures prepared by the faculty are provided for the students to enable the slow learners who are having language problems. The students who have missed the live sessions will be benefited by this initiative.
- Role play, crosswords, technical puzzles and analogies are adopted for teaching to create an enthusiastic and interactive classroom environment.

6.3.3 Examination and Evaluation

The Internal question papers are scrutinized by senior faculty members heading the department. Result analysis is done after every internal exam to evaluate the class pass percentage status and the remedial measures to be taken for the slow learners.

Computer technology centre helps in registration of subjects and gives prompt Exam intimations like the exam dates, time table with the exam hall number through the

university website. The examination has become rigorous with Choice Based Credit System wherein the student will be assessed continuously at the end of every 12 lecture hours.

The Continuous Assessment marks (internal) awarded for the first CBCS batch is 70 and the End Semester Examination is conducted for 100 marks and converted to 30 marks. For the subsequent CBCS batches, the Continuous Assessment Marks awarded is 60 and the End Semester is for 40 marks.

The end semester examinations are to be scheduled between 93rd working day and 100th working day for programs under semester pattern. For PG programs with trimester pattern (KUBS), the end semester examinations are to be scheduled between 63rd working day and 70th working day.

Theory Courses

The question paper for all the theory courses will contain 5 questions of 20 marks each. One question will be compulsory question and other will consists of 4 pairs of questions with either or choice.

The students registered for the same course will appear for a common End Semester examination.

Practical, Part-semester Project and Full-semester Projects: Faculty who conducted the practical / the Supervisor of the Project along with an expert from KU to be appointed by the HoD will conduct the end semester examination.

6.3.4 Research and Development

Significant development in the research was observed during the last academic year compared with the earlier academic years. The details of the development are as follows:

- 66 Projects were submitted to various funding agencies to tune of 14.65 crores. These projects are under review.
- 11 Patents have been filed and 3 more are currently under filing process.
- The following Research Labs are established enabling the faculty and research scholars to work together on funded projects and provide training in the current technologies.
 - Karunya Salzer Innovation Cell
 - DST INCITE Cell in collaboration with Mazumdar Shaw Medical Foundation
 - MoU with CMTI, Bangalore and FCRI Palakkad
 - CISCO Centre Of Excellence for advanced networking
 - NOVELL Centre Of Excellence for Cloud computing
 - IBM Big Data Software Centre of Excellence
- The school research committee meeting is being conducted once in a month to discuss about the research activities, to strengthen the research and monitor the progress of the Ph.D Scholars.

- The Ph.D research Audit is conducted once in a year to scrutinize the records maintained by each candidate in form of a Red Book to evaluate the progress of the Ph.D scholars
- Seed money for faculty, UG and PG students for carrying out their project works.
- The M.Tech projects are converted as good research publications by the following research groups:
 - Advanced computing, Network security, Data Mining, Image Processing and Computational Intelligence,
 - Signal processing, Embedded systems, VLSI and Communication.
 - Thermal Engineering, Design and Manufacturing
 - Structural, Environmental and Water Research
 - Solar Energy, Wind Energy, Power Electronics and Drives, Electric Vehicles, Biomedical Signal Processing
- Various sessions by eminent personalities from industries and other institutions are devised to improve and enhance research potential and initiate quality assessment standards of the research groups. The department encourages Undergraduate and Postgraduate students to do their projects in the major research thrust areas and also motivate them to participate in International/ National Conferences, Publish their work in Scopus indexed Journals.
- Research initiated in the field of Non-invasive haemoglobin, blood sugar measurement, thought based robotic arm control and Embedded based remote control of Robotic arm.
- One day Hands on training workshop on UV visible and Fluorescence Spectroscopy was conducted to familiarise techniques among young researchers.
- Frontier area of research is pursued on NEMS/MEMS, Nanodevice Fabrications, Nano-composites for various engineering applications.

6.3.5 Library, ICT and physical infrastructure / instrumentation

The Central Library is open in all the working hours from 08.00 am to 11.00 pm
The following facilities are available in the library:

- Total No. of books = 93288 (titles and volumes)
- Access to digital library
- Reading rooms/halls with A/C facilities
- Thesis/project reports
- E-Journals/Journals/Magazines/E-books
- Special Collection - special collections (UPSC, IBPS, CDS,
- GATE, GRE, TOEFL, aptitude books, etc.,)
- Document delivery service –DELNET
- Touch screen Kishok
- Photocopies
- LCD Projectors
- Webinar on latest technologies
- 30 Computers with internet facility

6.3.6 Human Resource Management

1. The faculty members are provided with good working environment and facilities to perform their jobs effectively.
2. The workload is distributed among the faculty members as per the UGC norms.
3. Well defined career advancement policies are framed and implemented as per the UGC norms.
4. The faculty members are granted adequate leaves such as Casual Leave, Earned Leave, Special Casual Leave, Sabbatical Leave, Study Leave, Medical Leave and Maternity Leave, etc.
5. Staff Accommodation/Quarters are provided for the teaching and non-teaching staff as per the requirement and availability.
6. The Staff members are compensated with salary as per the 6th Pay Commission as prescribed by the UGC. Their salaries are credited every month on time.
7. Statutory benefits such as EPF, Gratuity, Maternity, etc. are provided to all eligible staff members.
8. Financial assistance is provided to the Non-teaching Staff children's education as per the university norms.
9. Group Mediclaim Coverage is administered for the benefit of employees.
10. Non-Teaching Staff are highly benefited through loans obtained for lower interest through Staff Benevolent Fund.

6.3.7 Faculty and Staff recruitment

The Faculty and Staff Recruitment are carried out whenever vacancy arises in the departments. Well qualified and experienced Faculty / Staff are recruited by procuring prospective profiles through advertising in leading newspapers, University websites, job portals, and through referrals. The prospective candidates will apply through online and their applications are scrutinized by the respective heads of the Departments / the Directors of the Schools. The shortlisted applicants are called to attend the selection process. The selection process comprises of teaching/skill/research / aptitude tests conducted in the presence of an external expert. The University Selection Committee conducts the final round interview along with external domain experts who evaluates the subject / technical knowledge of the candidate. The right candidates with the required qualification / hands-on experience are recruited for appropriate positions.

6.3.8 Industry Interaction / Collaboration

1. Industry/University Relations

Karunya University has signed MoUs with corporate organizations and International Universities establishing collaborative ventures in terms of student projects, twinning/dual degree programs, internships, faculty exchange programs, joint research activities, consultancy and establishing centers of excellence in advanced scientific/technical areas. International programs offered through Karunya University are the most exciting and career enhancing options for every student. Learning and understanding new cultures, improving foreign language skills, studying a discipline

with an international perspective, and seeking out new challenges are significant elements of a study abroad experience.

(a). Karunya University has active collaborations with the following universities.

Sl. No.	Name of the University
1	The University of the West of England, Bristol, UK
2	Aachen University, Aachen, Germany, (Department of Engineering Geology and Hydrology)
3	Technion – Israel Institute of Technology
4	Jacob Blaustein Institutes for Desert Research (BIDR), Ben-Gurion University of the Negev, Beersheva, Israel
5	University of Wisconsin, Milwaukee, USA
6	Institute of Archeology, Hebrew University of Jerusalem
7	University of Northwestern, USA

The following are few highlights of the activities carried out with the foreign Universities:

Ben-Gurion University [Department of Desalination and Water Treatment (DWT)], Israel

Joint research activities are being carried out in the areas of Electro Chemical Technologies, Electro Dialysis, Capacitive Deionization and Membrane Technology for the treatment of ground water, wastewater and drinking water. The following research scholars are involved in joint research in collaboration with Ben-Gurion University in the above-mentioned areas.

- a) Mr. K. Govindan (RR10CH002)
- b) Mr. T. Chidambaram (RR11CH006)
- c) Mr. A. Thamilselvan (RR13CH002)
- d) Ms. S. Vinodha (RP10CE001)

Technion University, Israel

The following members from Karunya University are doing their research work at Technion University.

- a) Mr. T. Chidambaram (RR11CH006), Ph.D. Scholar from Karunya University is currently carrying out his Post-Doctoral research in Technion University under Prof. Carlos Dosoretz, Israel in the area of Membrane biofouling in nanofiltration process of wastewater treatment.
- b) Dr. Lydia M, Assistant Professor (AGP 8000) from Karunya University carried out her Post Doctoral research in Faculty of Electrical Engineering, Technion University.

Hebrew University, Israel

Mrs. Priscilla Brighton, Karunya University has carried out research activities on Cross Cultural Analysis on Career Decision Making with Dr. Itamar Gati, Department of Psychology, Hebrew University.

University of Wisconsin, Milwaukee, USA

Joint research activities are being carried out on “Graphene-enabled High-performance Capacitive Deionization for Water Treatment”.

Northwestern College, US

Ms. Rachel Joy Friesen, from the University of Northwestern, USA has been admitted (EOI No. 16SEP1001) in Karunya University for One Semester Study under Student Exchange Programme.

University of Texas, Dallas

The following students have undergone summer programme at University of Texas, Dallas from 01 June 2016 to 30 June 2016.

Sl. No.	Name of the Student	Register Number	Course
1	Sam Sreetej Khandavalli	UR13CS134	III B.Tech. CSE
2	Alvin John Abraham	UR13CS013	III B.Tech. CSE
3	Pete Johannes Samuelraj E	UR13CS101	III B.Tech. CSE
4	Samuel Roy	UR14CS007	II B.Tech. CSE
5	Roshin Rajan Panackal	UR14CS042	II B.Tech. CSE
6	Krishi A.P	UR14CS120	II B.Tech. CSE
7	Stacey Viclif Thomas	UR14CS002	II B.Tech. CSE

National Ilan University, Taiwan

The following students have been selected for doing their M.S programme with stipend at National Ilan University, Taiwan

1. Ms. Jaishree, (ECE) - 50% Scholarship
2. Ms. Jeniffer (ECE)

Monash Malaysia

Monash University Malaysia showed interest to collaborate with Karunya University for internship and higher studies. Ms. Porshia Richard, Country Representative of Monash Malaysia had conducted orientation and interacted the interested students individually on 15.04.2016. Few students were interested in doing their higher study at Monash Malaysia.

Others

Efforts were made to collaborate with the following foreign institutions for the benefit of students for internship / semester exchange programme and for higher studies.

- 1) Hong Kong University of Science and Technology (HKUST), Hong Kong
- 2) Bialystok University of Technology (BUT), Poland
- 3) Huazhong University, China

(b). Karunya University has active collaborations with the following industries.

Sl. No.	Name of the Organization
1	SIEMENS Ltd, Mumbai
2	CISCO Systems, INC
3	Novel Software India Pvt Ltd
4	Red Hat India P.Ltd, Pune
5	Oracle India Pvt Ltd
6	IBM India Pvt ltd
7	Microsoft Corporation India Pvt.Ltd
8	Infosys Technologies
9	Mazumdar Shaw Medical Foundation, Bangalore
10	Central Manufacturing Technology Institute, Bangalore
11	M/s.Fluid Control Research Institute, Palghat
12	Technology Training & Research Centre subsirframe Aerodesigns Pvt Ltd, cochin
13	Tata Elxsi Limited, Bangalore
14	Jasmin Infotech P.Ltd, Chennai
15	Vi Microsystems Pvt.Ltd, Chennai
16	M/s.Central Institute of Agricultural Engineering (ICAR), Bhopal
17	SEESHA Karunya community Hospital, Coimbatore
18	M/s. Salzer Electroncis, CBE
19	BIS Certificate, Coimbatore
20	M/s.Sri Ramakrishna Advanced Training Inst., Coimbatore
21	Microbiological Laboratory Research and Services India Private Ltd, Coimbatore
22	Central Sericultural Germplasm Resources centre, Hosur
23	Suguna Poultry Farm Limited, Coimbatore
24	M/s.Synthite Industries Ltd, Cochin
25	M/s.Ni Logic Pvt. Ltd, Pune
26	Deccan Industries, Coimbatore

27	M/s KPIT Technologies. Ltd, CBE
28	Vital Bio Systems
29	M/s Edgate Technologies (TI University Program Partner)
30	Pravin Electricals-Mumbai
31	National Stock Exchange
32	Project Management Institute, USA
33	Confederation of Indian Industry, Chennai
34	International Association of Accounting Professionals, UK
35	Builder's Association of India - Coimbatore Centre
36	Pearson Vue Testing Centre
37	M/s.Kriatech Services P.Ltd, Chennai
38	CAD Solutions, Coimbatore
39	Genome Life Sciences
40	NEN (National Entrepreneurship Network)

NEN - updated MoU signed

MoU has been signed with NEN (National Entrepreneurship Network) to work together to systematically develop the entrepreneurship capabilities of the Institute Partner leveraging NEN high impact methodologies, models, content frameworks and best practices for entrepreneurship development and sustainable infrastructure and programs.

Covenant IT Group, US

A Java based IT consulting project is being carried out for M/s Covenant IT Groups, US by our student team. 4 of our 2016 passed out alumni are working as full time employee along with other student team. The full time employees are getting paid a salary of 8 lakhs per annum where other student members are getting 1\$ per hour of working.

6.3.9 Admission of Students

Admission of students to various courses is based on merit and is transparent with the single window system.

- Efforts are made to ensure that all students seeking admission to the various courses stay informed through different modes of publicity.
- The Institution has developed its own website for the convenience of students seeking admission to the University.
- The college strictly adheres to the government norms in the admission process giving chance to the meritorious students belonging to the various sections of the society.

Karunya Entrance Examination (KEE) is conducted by Karunya University in different locations across India during the month of April. The Admission for all B.Tech. Courses are made based on KEE rank only. The admission for B.Tech. Courses are conducted at Karunya University Campus through Single Window Counselling.

For M.Tech admission, the eligible candidates are called for attending online test and interview in the University Campus. Based on the marks scored by the candidate in UG degree (50%), online test (25%) and interview (25%), the PG admission is provisionally made.

M.Phil. / Ph.D.

- Master's Degree of this University or any other qualification recognized as equivalent thereto in the fields of study notified from time to time by this University. Minimum eligibility is 55% of marks or equivalent CGPA. However 5% relaxation is given to the candidates belonging to SC/ST for admission into Ph.D program
- Master Degree in Arts, Science, Computer Application and Management of this University or any other qualification recognized as equivalent thereto in the field of study. Minimum eligibility is 55% of marks or equivalent CGPA. However 5% relaxation is given to the candidates belonging to SC/ST.
- All eligible applicants will be called for a written entrance test and interview. The admissions will be based on a merit list based on the consistent academic record and performance in the entrance test and interview.
- The candidates will also attend an interview in the concerned department.
- The candidates are ranked based on the academic records / performance as given below:
 - ❖ UG – 5 marks;
 - ❖ PG – 20;
 - ❖ Experience – 5 [half a mark for each year of service];
 - ❖ Publications – 5; [2- for International refereed Journals, 1 – National refereed journal / Conference conducted by Professional Associations];
 - ❖ Entrance test – 40 [Part A - 15 marks for common test and Part B - 25 marks for departmental test to be conducted together];
 - ❖ Interview by the Department – 25.

School / Department wise merit list will be uploaded in the Karunya Website.

6.4 Welfare schemes for

Teaching	Staff welfare Fund , Staff Benefit fund, MediClaim, Employee Provident Fund, Quarters, Hospital services, Water, Wifi, Transport, Gratuity, Pension benefits
Non-teaching	Staff welfare Fund, Mediclaim, Employee Provident Fund, Hospital services, Welfare fund. Educational facility for children, Gratuity, Accommodation, Pension benefits
Students	The students are enrolled in a Health care program where they get both outpatient and inpatient facility at a subsidized cost. Wifi, hostel, water, power, scholarship to students who excel in sports,

	Separate Gym for Boys and Girls are available in the University Hostels, IASTE, Hospital, Bank, post office facilities are available
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6.5 Total corpus fund generated

881.23

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	Yes	Senior Faculty members from premier Institutions	Yes	Senior Faculty Members from Karunya University
Administrative	No	-		

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?

1. Online exams were conducted for objective type questions as a part of Internal Assessment.
2. Supplementary exams were conducted at the end of every academic year to make the students to clear the arrears in the same academic year itself.
3. Semester Exam results are published within one month after the end of all exams.
4. Degree certificate are issued within one month after the completion of all exams.
5. Continuous Assessment, Quality Assessment, CBCS, online examination system, Multiple choice questions for evaluating analytical skills, continuous assessment system, personalised question paper system are introduced.

Choice based credit system where the individual faculty can give marks for internal assessment as well as end semester exam for the subjects they are handling

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

The Institute has dedicated Alumni Cell that networks with the alumni of Karunya University. Each department has specifically assigned certain faculty members as coordinators for Alumni cell. The expertise of alumni is utilized for department seminars, workshops, guest lectures, career counselling, placement training, placement, curriculum reformation, research and admission into foreign universities and as a member of Board of Studies (BOS).

The Alumni Cell sponsors a variety of events to provide opportunities to connect through:

- Career Networking Social Events
- Educational Programs
- Reunions
- Incubation Projects
- Placements

Karunya Alumni Cell has two bodies, Karunya International Alumni Association (KIAA) and Karunya Alumni Association for India operations.

Our Alumni Portal karunyauniversity.almaconnect.com facilitates the networking and collaboration between student, faculty and alumni association members. Karunya Alma Connect is a social network focused on helping our alumni to get trusted help from alumni network.

Alumni Cell Achievements from July 2015-June 2016

- Academic Board: 40 alumni are actively involved in the Board of Studies.
- Placements: 57 placements were provided by 8 alumni.
- Internships: 15 internships were provided by 5 alumni.
- Consultancy: One alumnus was involved in offering a consultancy project.
- Industrial visit: 4 Industrial Visits were organized by 4 alumni.
- Alumni Guest lectures: 15 alumni visited Karunya University to participate in departmental activities and interacted with students through guest lectures.
- Sponsorship and Donation: 1991-1995 Batch during their reunion gave Rs 50,000 for sponsoring students who are under privileged. MR Jaysingh Pathrose CEO Jasmin Infotech donated RF transceiver and control equipment worth Rs 25,000 to Electronics and Instrumentation Department. Mr. Manivanan MD ELIDI Renewable Technologies Bangalore donated instrument worth Rs 75,000 to EEE lab and is currently mentoring 2 students on product development projects.
- Mr. Selvinson (ECE 1990-1994), Senior VP, Reliance Jio was invited as the chief guest on March 3rd, 2016 for Mindrakraft inaugural function.
- Alumni Lecture series: 18 senior distinguished alumni actively participated in the four alumni lecture series and handled workshops/ seminars on latest technologies.
- TedX event: Mr. Sam Rufus (Mech 1993-1997), CEO of Glueplus was invited for the Tedx event.

Alumni Reunion: 9 Alumni reunions.			
S.No	Alumni Reunion	Date	Number of Participants
1	Inauguration of Karunya Alumni Association for India	12/7/2015	200
2	Silver Jubilee reunion of 1986-1990 Batch	7/8/2015	60
3	Vicennial Reunion of 1991-1995 Batch	1/8/2015	35
4	Ajman, Dubai, Abu Dhabi Alumni Meet with Dr. D. Tensing and Dr.C.S.C. Devadass from School of Civil Engineering	3/12/2015 4/12/2015	47
5	KUBS ALUMNI REUNION	12/12/2015	20
6	CST Alumni Meet	6/2/2016	100
7	EMT Alumni Meet	27/2/2016	19
8	EEE Alumni Meet	27/2/2016	10
9	Food PRO Alumni Meet of 2009 Batch	19/3/2016	10

6.12 Activities and support from the Parent – Teacher Association

Parents' meets are held in the campus as well as outside the campus to get the feedback, suggestions for improvement and also to address the grievances of parents. The mentors communicate with parents regularly regarding the progression of their wards. Progress reports are sent to the parents after every internal exam.

University level Parents Meet was organized on 6th February 2016 at Chennai. (Please see a report in **Annexure -iii**)

Department-wise Parents Meet conducted during the year 2015-16 are as given below:

S.No.	Date	Department	Venue
1.	12.03.2016	ECE	EEE Seminar Hall
2.	02.04.2016	FPE	Biotech Seminar Hall
3.	02.04.2016	Biotech	Biotech Seminar Hall
4.	13.04.2016	CSE	Emmanuel Auditorium
5.	16.04.2016	Civil	ECE Seminar Hall

- Parents and teachers meet together under one roof every year and discuss about the performance of their wards. Very good ambience is provided for the parents to interact with mentors of their wards, to know about the performance in Examination, Laboratories and other co-curricular and extra circular activities.
- The parents from the relevant field of engineering offer their suggestions regarding the curriculum, training required to be given based on the market need, value added courses and other avenues for the improvement of the functioning of the department.

6.13 Development programmes for support staff

The developmental programmes conducted for the supporting staff are as follows:

1. An orientation programme on communication was conducted for Non-Teaching on 26.2.2016 and 22 staff members were benefited through this programme.
2. An FDP on Modernization of (virtual) Lab was conducted on 26th February 2016 and 16 supporting staff members were benefited by this programme.
3. One day hands on training programme in co-ordinate measuring machines held at Ramakrishna Engineering College on 22.1.2016. Five of our Supporting Staff members are benefited by this training.

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

To maintain the campus eco-friendly, the following initiatives are taken:

1. Vehicles are not allowed inside the campus except for higher officials.
2. Differently abled students are provided with the facility of using battery car for their travel inside the campus.
3. All the circular and communication to faculty and students are made through email ensuring paperless official transactions.
4. Solvent waste management in research laboratory.
5. Solid waste management inside the campus.
6. Educating students on Green Environment and Green marketing
7. Dengue awareness campaign for Nallurpathy village people. Renovation of Community Hall in Sadivayal (Cleaning) in order to facilitate the tribal people to celebrate functions. Road safety.
8. Motivate and encourage the students to keep the campus litter free.

Criterion – VII

7. 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.

The list of innovations and best practices are presented as given below and the key innovations are elaborately presented:

- New research groups such as Power Systems, Power Electronics, Structural Vibration Control, etc. were formed with faculty members working on those respective research areas. These groups collectively organise workshops, conference, etc., which resulted in submitting project proposals to external funding agencies.
- Industry Interaction with Salzer Electronics and Coimbatore Industry Institute facilitated in-plant training to students and technical support for carrying out the projects and Product Development.
- Centre for Nanoscience and Technology is a central facility which accommodates final year students of ECE, EEE and biotech to carry-out their end semester projects.
- Keeping in line with University Vision, Projects have been carried out in the areas related to Energy, Water and health
 - Interdisciplinary Projects
 - Workshops and Add-on Courses
 - Feedback from alumni
 - NPTEL lectures for teaching
 - Guest Lectures by experts from industries and health care sectors.
 - Motivational talks by alumni
 - Industry tie-up projects
 - Internships with Industries of repute.
- Innovative projects have been carried out in providing solutions to human problems.
 - Non-Invasive haemoglobin monitor.
 - A Novel Volume Measurement Device for Automobile Fuel Tanks
 - Low cost vacuum suction based wound healing
 - Non-invasive blood glucose monitor
 - Non-invasive blood pressure monitor

a. Non-Invasive Hemoglobin Measurement

Introduction:

Globally, anemia is ranked to be the third killer disease and it continues to be a serious problem with far-reaching consequences for health as well as social and economic development. It is estimated that iron-deficiency anemia affects 42% of children under age 5 and 53% of children from 5 to 14 years of age. The majority of the 56 million pregnant women and 468 million non-pregnant women worldwide affected by anemia live in sub-Saharan Africa and Southeast Asia. Anemia results in poor pregnancy outcomes including increased risk of maternal and pri-natal mortality.

It is crucial to understand how haemoglobin plays the role of oxygen transporter in the body. A single red blood cell contains approximately 265 molecules of haemoglobin. One haemoglobin molecule contains four heme and four globin units and each of a haemoglobin unit can carry four molecules of oxygen. A property of haemoglobin is that it changes colour when oxygenated. Oxygenated haemoglobin is bright red and de-oxygenated haemoglobin is dark red, therefore the light absorbance of oxygenated and de-oxygenated haemoglobin is different. Also, the absorbance is different for light of two different wavelengths. Commonly used methods to screen for anaemia require a blood draw, placing patients and health workers at the risk of infection from contact with blood and sharps. To determine haemoglobin content in blood, a few cubic centimetres (cc) of blood is drawn from the veins of the patient being tested. The drawn up blood is then subjected to chemical analysis and the haemoglobin content in terms of milligram of haemoglobin per deciliter (mg/dL) of blood is ascertained. Therefore, the process of determining haemoglobin content in blood that is in vogue requires few hours to a day for the result to be available. Additionally, if the drawn up blood samples are to be transported, extra care is to be taken to maintain the blood samples within the temperature range of 1 °C and 10 °C.

Methodology:

Pulse oximetry is non-invasive measurement of the oxygen saturation (SpO₂). Oxygen saturation is defined as the measurement of the amount of oxygen dissolved in the blood, based on the detection of Haemoglobin and Deoxyhaemoglobin. Two different light wavelengths are used to measure the exact difference in the absorption spectra of HbO₂ and Hb. The bloodstream is affected by the concentration of HbO₂ and HHb, and their absorption coefficients are measured using two wavelengths 660 nm (red light) and 940 nm (infrared light). Deoxygenated and oxygenated haemoglobin absorb different wavelengths. Deoxygenated haemoglobin (Hb) has higher absorption at 660 nm and oxygenated haemoglobin (HbO₂) has a higher absorption at 940 nm.



The reflected lights are detected and collected by means of a photo-detector and are amplified and conditioned. The signals thus obtained are collected through the data acquisition system and are fed to the laptop which hosts the LabVIEW software. The Red PPG and IR PPG signals are collected simultaneously and the required parameters are extracted from the signals. The LabVIEW program executes the empirical formula for calculation of haemoglobin concentration. The obtained values are with relative error

within $\pm 8\%$ of the clinical laboratory data.

b. A Novel Volume Measurement Device for Automobile Fuel Tanks



- ❖ A unique blend of instrumentation and artificial intelligence has given birth to a novel measurement technique for volume in fuel tanks.
- ❖ Fuel indicators of Automobiles show only an approximate Volume of fuel due to its irregular shape.
- ❖ The novelty being that the measurement system can be connected to the factory built sensor to measure the correct volume despite any inclination of the tank.
- ❖ To lend a helping hand for students across India in shaping their career through projects in materials and materials processing.
- ❖ In the developed measurement system an advanced AI algorithm is used to estimate the actual volume of fuel from the existing Level Sensor's output.
- ❖ Kalman filter is used to reduce the measurement error due to induced noise in sensors signal
- ❖ Corrections in Volume indication also have been provided for the Vehicle's Tilt

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

Plan of Action	Action Taken Report
1. NBA accreditation for a few programmes and NAAC re-assessment.	Ensured the visit of NBA to the Department of Civil and Mechanical Engineering on 11-13 Sep.2015. Ensured the visit of NAAC Peer Team to our campus for re-assessment on 5-7 May 2016.
2. Establishment of TRIBES (Translational Research Institute for Biomedical and Engineering Sciences)	Projects were submitted to various funding agencies with the tune of 40 crores for the establishment of TRIBES.

3. Placement for more number of passing out students in relevant industries with higher salary.	1103 students out of 1263 eligible students got placement.
4. Expansion of the Central Library to provide more space for students to read.	Central Library is expanded with a total area of 32149 sq.ft. with an increase of 3 times.
5. Expansion of the Computer Technology Centre to accommodate many labs for conducting online internal tests.	Computer Centre is expanded with a total number of 2132 computers.
6. Face-lift to all laboratories attached to departments by procuring sophisticated equipments.	Facilities in Department specialized labs were improved.
7. Making Ph.D. / M.Phil. Regulations more stringent to increase the output quality of Ph.D. scholars in terms of publications and by introducing comprehensive viva voce.	Ph.D. M.Phil. Regulations were modified by the CoE.
8. Academic Audit, Research Audit, Green Audit and Gender Audit to be conducted	External Academic Audit, Green Audit and Gender Audit were conducted and the suggestions were implemented.
9. Best Researchers awards, Achievers Award and Best Department Awards to be given for motivating faculty members.	Best Researcher Award, Achievers Award (those who got funded research project) and Best Department Awards were distributed
10. Performance analysis of all schools and departments to be conducted.	Performance analysis of all departments were conducted and based on the IQAC score best departments were awarded with certificates and shields.

7.3 Give two Best Practices of the institution (*please see the format in the NAAC Self-study Manuals*)

Please see **Annexure - iv**

****Provide the details in annexure (annexure need to be numbered as i, ii,iii)***

7.4 Contribution to environmental awareness / protection

Energy conservation steps are taken in saving electrical energy, usage of water and by using energy efficient devices. Energy audits were conducted and the outcome of the audits was used for conserving energy. In the students' residences and faculty residences, the incandescent lamps have been replaced with CFL bulbs. Sensors are provided to the administrative faculty to conserve energy.

All the student residences are provided with solar water heaters. Apart from this, the entire terrace of the Administrative building is provided with solar panels with a capacity of 95kW which supply power to the electrical fittings thus saving 520 units of EB power every day. 129.94 tons of CO₂ emission per year is prevented by solar water heaters. KITS is situated in the foothills of Siruvani and surrounded by green environment. KITS maintains coconut trees, Eucalyptus trees, Neem trees, Tamarind trees, Cotton trees and Mango trees apart from maintaining lawns and flower plants.

Hazardous wastes are separated before disposing waste water from laboratories into soak pits. Polythene bags and plastics are separated before burying the organic waste. Old computers/printers are donated to schools if they are in usable conditions; otherwise they are sold to vendors for recycling.

3rd Green Audit was conducted during April 2016. The following are the recommendations of the Green Audit committee:

- Changing Copper choke of tube lights by electronic chokes during replacements.
- Energy saving fans are used in the new class rooms.
- Water conservation methods are adopted by using spring loaded water stoppers.
- Rain water harvesting system is completely installed in all the buildings of the campus. A ferro-cement tank is installed in the campus for collecting the rain water which is then pumped to an over head tank for the usage in rest rooms in the administrative building.
- The number of evergreen trees such as neem and poonga is increased in University and Hostel campuses.
- Complete ban on use of polythene bags, plastic cups, disposable plates (thermocoal or alumina coated) within University and Hostel Campus.
- Use of 5 star rated electrical equipments certified by BEE.
- Use of paper for communication is minimized.

The activities of Centre for Extension Activities for environmental awareness and protection.

- Awareness rally on “Noyyal Restoration and Importance of Water Conservation” in association with ‘Siruthuli’ organization was conducted in which 1000 students from Karunya University participated. This programme was inaugurated **Mr. Anna Hazare**
- During the birthday celebration of Dr. APJ Abdul Kalam’s Karunya University distributed free tree saplings to all the nearby village people.

7.5 Whether environmental audit was conducted? Yes ☒ No ☐

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

SWOT Analysis of KITS

Strengths:

1. Choice based Credit System (CBCS) with interdisciplinary subjects and international credit transfer policies. All class rooms are ICT and Wi-Fi enabled.
2. Dedicated and highly qualified faculty members.
3. Centers for technology development in collaboration with IBM, Salzer, Siemens, Novell etc.
4. Active DST-INCITE extension centre at campus for patent filing.
5. Every department is engaged in consultancy activities.
6. Strong industry and alumni collaborations with visible, measurable outcomes.

7. 33,000 square feet of library space with 1, 04,000 book volumes.
8. Study circle for Civil service, GATE, NET/ SLET exams and other competitive exams.
9. Effective decentralized setup with full academic and financial autonomy to Directors/ HODs.
10. More than 80% placement offers from Core and IT based companies annually.

Weakness:

1. The location of the institution at the foothills of Western Ghats, delays our capacity building measures due to stringent procedures laid out by Hill area conservation Authority (HACA)
2. Although the number of women students remains the same, there is an overall drop in women student ratio by 2%.
3. Despite an increase in number of funded projects, university is striving hard for mega projects (> 2 crores) from funding agencies.
4. Having achieved greater than 80% student placement offers, the university is sensing the need for more non-IT based core companies as their requirement for placement is often very meagre.
5. KITS provides 100% generator backup for power despite having 3 HT power lines. More solar powered installations are needed to rely on non-conventional energy resource.

Opportunities:

1. Efforts to bring in vocational training centers in collaboration with government agencies such as CIPET, COINDIA are in pipeline.
2. University envisages to enlist eminent scientists and technologists from multinational agencies for product development.
3. Translational research center for device fabrication is on the verge of launch. More industry partnership is envisaged for device fabrication to make this center a hub for medical electronics.
4. With the growing trend in ICT based learning, teaching learning process can be completely tuned to project based learning.
5. Emphasis is given more for student projects at both PG and UG level. Need for more IPR and entrepreneurial activities are imminent.

Threats

1. With growing interdisciplinary approach in teaching-learning process, there is a greater challenge to periodically restructure our research infrastructure and industry partnership.
2. More research grants and industry partnerships are needed for student product development activities in order to groom potential entrepreneurs.
3. Identifying industry partners who are willing to invest on product development is a paramount task.
4. Venture capitalists and angel investors' participation will determine our priorities on Translational research.
5. Government initiatives launched recently on smart city, start-ups, Make in India, Clean India, skill development schemes have close parallel to the vision and mission of our university which needs to be integrated.

8. Plans of institution for next year

In line with the Vision and Mission of the University, the departments came up with different plans for development during the academic year 2016-17. The key plans are identified by IQAC which in turn will monitor the progress and implementation of the same. The identified plans are:

- Implementation of activity and project based UG courses and research with publication based PG courses
- Effective functioning of industry advisory committee in each department
- Sandwich programmes with industries for students to equip their practical knowledge
- Induction of students from abroad through IAESTE and guide them to do novel Projects.
- Submission of mega research proposals to various funding agencies.
- Establishment of IoT labs
- Interdisciplinary certificate programmes
- Simultaneous interdisciplinary PG diploma for biotech, mechanical and electronics students in instrumental characterization
- M.Tech. Programmes to be integrated with industries
- Creating opportunities for student start-ups, Incubation & Entrepreneurship
- Conducting a survey among the students to identify their options for Core company placements, Software company placements, higher studies in India / abroad and orienting them towards attaining the same.
- Conversion of the research facilities into centres of excellence
- Ensuring the participation of faculty members to participate in online certification courses through MOOC platform
- Active association with Karunya Rural Community Hospital through collaborative research activity

Name Dr. D. Tensing



Signature of the Coordinator, IQAC

Name Dr. M. J. Xavier



Signature of the Chairperson, IQAC

Abbreviations:

CAS	-	Career Advanced Scheme
CAT	-	Common Admission Test
CBCS	-	Choice Based Credit System
CE	-	Centre for Excellence
COP	-	Career Oriented Programme
CPE	-	College with Potential for Excellence
DPE	-	Department with Potential for Excellence
GATE	-	Graduate Aptitude Test
NET	-	National Eligibility Test
PEI	-	Physical Education Institution
SAP	-	Special Assistance Programme
SF	-	Self Financing
SLET	-	State Level Eligibility Test
TEI	-	Teacher Education Institution
UPE	-	University with Potential Excellence
UPSC	-	Union Public Service Commission
