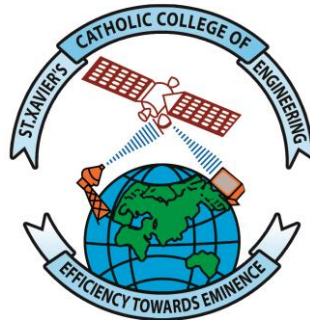# National Assessment and Accreditation Council
Bangalore – 560 072

2017-2018
Annual Quality Assurance Report
(AQAR)

Submitted by

St. Xavier's Catholic College of Engineering
Chunkankadai, Nagercoil – 629 003

TNCOGN27134

July 2018

Contents

Part – A

1. Details of the Institution

1.1	Name of the Institution	:	St. Xavier's Catholic College of Engineering

1.2	Address	:	Chunkankadai
	City/Town	:	Nagercoil
	State	:	Tamil Nadu
	Pin Code	:	629003

Institutional e-mail Address	:	info@sxcce.edu.in
Contact Numbers	:	04652-232560
Name of the Head of the Institution	:	Dr. S. Joseph Sekhar
Tel. No. with STD Code	:	04652-232560
Mobile	:	9952001816
Name of the IQAC Co-ordinator	:	Dr. A. Milton
Mobile	:	9442602309
IQAC e-mail Address	:	iqac@sxcce.edu.in

1.3	NAAC Track ID	:	TNCOGN27134
1.4	NAAC Executive Committee No. & Date	:	27, 12-09-2017
1.5	Website Address	:	www.sxcce.edu.in
	Web-link of the AQAR	:	http://sxcce.edu.in/web/ssr/SXCCEAQAR-2017-2018.pdf

1.6   Accreditation Details

Sl. No.	Cycle	Grade	CGPA	Year of Accreditation	Validity Period
1	1st Cycle	A	3.02	2017	5 Years

1.7	Date of Establishment of IQAC	:	29-08-2016
1.8	AQAR for the Year	:	2017-2018

1.9   Details of the Previous year's AQAR submitted to NAAC after the latest Assessment and

Accreditation by NACCE:

Nil

1.10   Institutional Status   :

University   State ☐   Central ☐   Deemed ☐   Private ☐

Affiliated College   Yes ✓   No ☐

Constituent College   Yes ☐   No ✓

Regulatory Agency Approved
Institution   Yes ✓   No ☐

Autonomous College of UGC   Yes ☐   No ✓

Type of Institution   Co-education ✓   Men ☐   Women ☐

                         Urban ☐   Rural ✓   Tribal ☐

Financial Status

Grant-in-aid ☐   UGC 2(f) ✓   UGC12(B) ✓

Grant-in-aid+Self-Financing ☐   Totally Self-Financing ✓

1.11   Type of Faculty/Programme   :

Arts ☐   Science ☐   Commerce ☐   Law ☐

PEI(Phys Edu) ☐   Engineering ✓   Health Science ☐   Management ✓

1.12   Name of the Affiliating
       University (for the Colleges)   :   Anna University, Chennai.

1.13   Special Status Conferred by Central/State Government—UGC/CSIR/DST/DBT/ICMR
       etc:

Nil

2. IQAC Composition and Activities

2.1	No. of Teachers	:	09
2.2	No. of Administrative/Technical Staff	:	01
2.3	No. of Students	:	--
2.4	No. of Management Representatives	:	02
2.5	No. of Alumni	:	01
2.6	No. of any other Stakeholders and Community Representatives	:	01
2.7	No. of Employers/Industrialists	:	01
2.8	No. of other External Experts	:	01
2.9	Total No. of Members	:	15
2.10	No. of IQAC Meetings Held	:	02

2.11   No. of Meeting with Various Stakeholders   :

Faculty 7   Non-Teaching Staff 2   Students 1   Alumni 1   Others -

2.12   Has IQAC received any funding from UGC during the year?   :   Yes [ ]   No [✓]

2.13   Seminars and Conferences (only quality related) :

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

Total Nos 05   International --   National --   State --   Institution Level 05

(ii)Themes   :   NBA Accreditation
Personal Value Formation
Quality Practices in Lab Management
Success for Quality

2.14   Significant Activities and Contributions Made by IQAC

- Course File Monitoring
- Attendance and Assessment Record Monitoring
- Mid-Semester Feedback
- End-Semester Feedback
- Internal Examination Question Paper Quality Evaluation

> ➢ Verification of Internal Examination Answer Scripts Evaluation
> ➢ Course File Audit
> ➢ Online Alumni Feedback
> ➢ Automation of Documentation of Cell Activities
> ➢ Faculty Profile in Automation Software

2.15   Plan of Action by IQAC/Outcome

Plan of Action	Achievements
Accreditation by NAAC	Institution has been accredited by NAAC with grade 'A'.
Accreditation by NBA	Applied for EEE, ECE and ME.
Course File	Quality of course plan and delivery has improved.
Attendance and Assessment Record Monitoring	All the faculty members keep the record of students' attendance and performance which is useful for continuous assessment.
Mid-Semester Feedback on Teaching	It is used to adjust the teaching as per the need of the students.
Internal Examination Question Paper Quality Evaluation	Questions are mapped with cognitive level of learning, course outcomes and program outcomes. Quality of question paper preparation has improved.
Verification of Internal Examination Answer Script Evaluation	Valuation of answer scripts and marks entered in the automation software are streamlined.
Online Alumni Feedback	Used to track alumni. Suggestions are used for the quality improvement.
Faculty Profile and Documentation in Automation Software	Automation of faculty profile for easy paperless storage and access.
Documentation of Cells' Activities in Automation Software	Automation of the activities of cells for easy paperless storage and access.
Comprehensive End-Semester Feedback	Feedback from students on all aspect of the college. Results in quality improvement.
API based Faculty Appraisal	Help to measure and improve the performance of faculty members.

2.16   Whether the AQAR was placed in Statutory Body   :   Yes ☑ No ☐

Management ☑ Syndicate ☐ Any Other Body ☐

Provide the Details of the Action Taken   :

> ➢ Suggestions provided by the management are incorporated in the AQAR and in the plan of the institution for next year

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	6	1	6	--
PG	12	--	12	8/12
UG	6	--	6	16/25
Certificate	--	1	--	--
Others	--	--	--	5
Total	24	2	24	29/25

Interdisciplinary	1	--	1	--
Innovative	--	--	--	--

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

Pattern	Number of programmes
Semester	18

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

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

➢ The University has revised the regulation and syllabi for both UG and PG for the academic year 2017-2018.
➢ Salient Features
   • Students from one programme can choose open elective courses from another programme.
   • Students are allowed to enrol in any one of the personality and character development programmes (NCC/NSS/NSO/YRC) and undergo training on hygiene, health awareness and first-aid for about 80 hours and attend a camp of about seven days.
   • The students may undergo Internship at Research organization / University after due approval from the Department Consultative Committee for the period prescribed in the curriculum during summer / winter vacation, in lieu of Industrial training.
   • Every student is required to go for at least one Industrial Visit every year starting from the second year of the Programme.

- Students have an option to drop two courses to a maximum of 6 credits of a particular semester and can add two courses in advance from the curriculum. Students are permitted to do a maximum of 36 credits per semester. This option is for engineering students from 3rd semester to 8th semester.
- The student can register for courses for which the student has failed in the earlier semesters. In such cases the student shall do reappearance registration for those courses for which the attendance requirement is not compulsory. However, the student have the option to take up some other professional elective or open elective that he has failed to pass.
- The total number of credits that a student is allowed to register per semester cannot exceed 36.
- Students may be permitted to credit one online course which are provided with certificate subject to a maximum of three credits. This online course of 3 credits can be considered instead of one elective course. The student needs to obtain certification or credit to become eligible for writing the End Semester Examination to be conducted by Anna University.
- If a student fails to secure a pass in a theory course except electives, the student can register for reappearance only along with regular students for that course in the subsequent semester, when offered next, earn continuous assessment marks and attend the end semester examination.
- If the course, in which the student has failed, is a professional elective or an open elective, the student is permitted to register for the same course, earn continuous assessment marks and attend the End Semester Examination or any other professional elective or open elective course in the subsequent semesters, attend the classes and fulfill the attendance requirements.
- Students can take a maximum of one two credit / two one credit value added courses during the entire duration of the Programme.
- Students are given liberty to do full internship or to do their project for 6 months in industry/research organizations in their eighth semester satisfying the following
  - The student should not have current arrears and shall have CGPA of 7.50 and above.
  - The student shall undergo the eighth semester courses in the sixth and seventh semesters.
- For practical training to students, Employability Enhancement Courses are also added in which every student is expected to present a minimum of 2 seminars per semester.

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

➢ Department of Civil Engineering has been recognized as a research centre by Anna University.

Criterion – II

2. Teaching, Learning and Evaluation

2.1 Total No. of permanent faculty

Total	Asst. Professors	Associate Professors	Professors	Others
167	133	19	15	-

2.2 No. of permanent faculty with Ph.D. : 50

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
15	-	1	-	3	-	-	-	-	-

2.4 No. of Guest and Visiting faculty and Temporary faculty

No. of Guest Faculty	No. of Visiting Faculty	No. of Temporary Faculty
--	3	--

2.5 Faculty participation in conferences and symposia:

No. of Faculty	International level	National level	State level
Attended Seminars/ Workshops	49	38	23
Presented papers	67	17	--
Resource Persons	3	6	11

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

- ➢ Gap analysis for identifying the extent of compliance of the university curriculum to attain the programme outcomes is prepared.
- ➢ Students' attainment levels of course outcomes and programme outcomes are measured.
- ➢ Academically sound students are encouraged by means of Endowment Awards, Blueberries Innovator of the Year, Fathima Best Project Awards, cash awards, and trophies.
- ➢ Course file system encourages the faculty to adopt innovative teaching learning processes in their course delivery.
- ➢ Course preparation and delivery are monitored and made effective through course file audit.
- ➢ Course materials have been prepared and made available in institute's automation software for the students.

2.7 Total No. of actual teaching days during this academic year: 210

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

- ➢ Two sets of questions along with the scheme of valuation are set by each teacher for each test and the Exam Cell makes a random choice of one of these for the test.
- ➢ The valuation of the answer script is completely based on the scheme of valuation.
- ➢ Bloom's taxonomy levels are used for question paper setting.

➢ Each question of the internal test is mapped with the course outcomes, programme outcomes and Blooms taxonomy learning levels.

➢ The Exam Cell coordinators ensure that the instructors set the question papers in the prescribed format.

➢ Quality of the question papers and answer keys are verified by the HoD, PG coordinators and IQAC members.

➢ After every internal assessment test, the solutions of the questions are explained in the class by the course instructor.

➢ Answer sheets are evaluated in a system of central valuation and the marks are entered in the college automation software.

➢ HoD and PG coordinators randomly verified the evaluated answer scripts and the marks entered in the college automation software.

➢ Assignments are given to students of all courses to gather extra information beyond what was taught in the class and to improve reading, problem-solving and writing skills of the students

➢ Assignments and seminars are used to kindle the creativity of advanced learners.

➢ IQAC monitor the overall activities related to the quality of question papers and valuation of answer scripts.

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

➢ Institution has prepared a full-fledged syllabus for a course on value education.

2.10 Average percentage of attendance of students: 83.16%

2.11 Course/Programme wise distribution of pass percentage:

Title of the Programme	Total no. of students appeared	Division			
		Distinction %	I %	II %	Pass %
B.E CE	71	3	47	14	90.14
B.E CSE	107	-	61	10	66.35
B.E EEE	61	-	35	12	77.04
B.E ECE	129	2	87	21	85.27
B.E MECH.	139	1	88	17	76.25
B.Tech. IT	34	-	26	2	82.35
M.E SE	17	6	10	-	94.11
M.E CEM	17	6	11	-	100
M.E CSE	16	1	15	-	100
M.E C&I	5	-	5	-	100
M.E PED	13	3	10	-	100
M.E AE	17	2	15	-	100
M.E CS	23	4	18	-	95.65
M.E ME	6	1	5	-	100
M.E CN	4	1	3	-	100
M.E EE	5	-	5	-	100
MCA	43	6	31	-	86.04
MBA	54	-	31	9	77.78

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

➢ IQAC provides the benchmarks to improve the teaching-learning process.

- It organizes quality initiative seminars by inviting eminent resource persons from reputed institutions.
- It suggests plans and monitors the usage of automation software for the effective implementation of different teaching-learning processes.
- Course file format and preparation guidelines are provided by IQAC.
- Faculty members prepare Course File for their allotted subjects, which is verified by Head of Departments four times in a semester and audited by the IQAC audit team constituted by the Principal.
- Faculty members maintain attendance and assessment record which are verified by Department Heads and IQAC three times in a semester and approved by the Principal.
- Mid-semester feedback introduced by IQAC is used to evaluate the teaching-learning process and adapt to the need of the students.
- IQAC obtain and evaluate the comprehensive end-semester feedback from the students.
- It does course file audit and academic audit to ensure effective implementation of teaching-learning strategies.
- Model classes to improve the quality of teaching have been conducted.

2.13 Initiatives undertaken towards faculty development

Faculty / Staff Development Programmes	Number of faculty benefitted
Refresher courses	1
UGC – Faculty Improvement Programme	14
HRD programmes	Nil
Orientation programmes	26
Faculty exchange programme	1
Staff training conducted by the university	Nil
Staff training conducted by other institutions	2
Summer / Winter schools, Workshops, etc.	95
Others	Nil

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	88	-	9	-
Technical Staff	43	-	4	-

Criterion – III

3. Research, Consultancy and Extension

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

➢ Research facilities of the institution are being improved by the procurement of quality equipment, updated library facilities and subscription to most of the research journals.

➢ Organizing International and National conferences, Symposia and workshops helps the students develop the scientific temper by interacting with the invited speakers and young researchers during the conference.

➢ In order to guide the students to do their projects effectively, an orientation programme on "How to do Projects Effectively?" is organized every year.

➢ The progress of students' project work is monitored and evaluated by the team of experts during project review and the suggestions and recommendations are recorded in the project report card. The best projects are rewarded with cash awards.

➢ Tech Fest is conducted every year to showcase the technical knowledge of the students through paper presentation, project demonstration and poster presentation. Cash awards are provided to encourage students.

➢ Research colloquium is conducted in each department by faculty members involved in research. Through this forum students are exposed to the most current research in their respective fields.

3.2 Details regarding major projects

	Completed	On going	Sanctioned	Submitted
Number	--	--	--	7
Outlay in Rs. Lakhs	--	--	--	129.31

3.3 Details regarding minor projects

	Completed	On going	Sanctioned	Submitted
Number	1	2	--	--
Outlay in Rs. Lakhs	0.15	0.15	--	--

3.4 Details on research publications

	International	National	Others
Peer Review Journals	34	--	--
Non-Peer Review Journals	3	1	--
e-Journals	--	--	--
Conference proceedings	70	8	--

3.5 Details on Impact factor of publications:

Range 0.1 to 6.1   Average 1.65   h-index 1 to 12   Nos. in SCOPUS 38

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	Received

Major projects	--	--	--	--
Minor Projects	--	--	--	--
Interdisciplinary Projects	--	--	--	--
Industry sponsored	--	--	--	--
Projects sponsored by the University/ College	--	--	--	--
Students research projects *(other than compulsory by the University)*	3	NMEICT MHRD	` 30,000	--
Any other(Specify)	--	--	--	--
Total	3	--	` 30,000	--

3.7 No. of books published   i) With ISBN No.   18   Chapters in Edited Books   --

ii) Without ISBN No.   7

3.8 No. of University Departments receiving funds from

UGC-SA   --   CAS   --   DST-FIST   --

DPE   --   DBT Scheme/funds   --

3.9 For colleges   Autonomy   --   CPE   --   DBT Star Scheme   --

INSPIRE   1   CE   --   Any Other (specify)   --

3.10 Revenue generated through consultancy   1,60,070

3.11 No. of conferences   organized by the Institution

Level	International	National	State	University	College
Number	2	--	--	--	--
Sponsoring agencies	CSIR, IETKLN	--	--	--	--

3.12 No. of faculty served as experts, chairpersons or resource persons   41

3.13 No. of collaborations   International   1   National   --   Any other   --

3.14 No. of linkages created during this year   2

3.15 Total budget for research for current year in lakhs :

From Funding agency   --   From Management of University/College   58

Total   58

3.16 No. of patents received this year

Type of Patent		Number
National	Applied	4
	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	District	College
2	--	--	--	--	--	2

3.18 No. of faculty from the Institution who are Ph. D. Guides   32

and students registered under them   80

3.19 No. of Ph.D. awarded by faculty from the Institution   9

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

JRF 1   SRF --   Project Fellows --   Any other --

3.21 No. of students Participated in NSS events:

University level 29   State level --

National level --   International level --

3.22 No. of students participated in NCC events:

University level 35   State level 1

National level 5   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 4   State level 1

National level --   International level --

3.25 No. of Extension activities organized

University forum | -- | College forum | 1 |

NCC | 10 | NSS | 5 |

Any other | -- |

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

- ➢ Our students donated blood in the Blood donation camp on 21-9-2017, conducted by YRC, NSS and NCC of our college, in association with Blood bank of Kanyakumari Medical College, Asaripallam.
- ➢ Cleanliness awareness was organized in order to give wider publicity about 'Clean India'.
  - • An awareness program was conducted in the college through our Eco club on 23-09-2017.
  - • A Cleanliness drive was conducted on 25-9-2017.
- ➢ Computer literacy training was conducted for the school students of our nearby village Dr. Ambedkar Nagar during the summer vacation by the department of Computer Science.
- ➢ Hiltek is established in the institution, to develop Research and Entrepreneurship on Automation Technology in associated with Electronics Corporation of India Ltd. Hiltek focuses on Socio Economic equality by Technology Innovation and functions as a District Innovation and Incubation Centre. It conduct awareness program and training to the school students of the district. 52 employees are working in Hiltek, of which 34 employees are alumni of the institution.

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 (Acre)	25	-	Management	25
Class rooms (sq.m)	4,822.57	313.8	Management	5,136.37
Laboratories (sq.m)	6,536.5779	622.03	Management	6,991.3879
Seminar Halls (sq.m)	284	-	Management	284
No. of important equipment purchased ($\geq$ 1.0 lakh) during the current year.	151	2	Management	153
Value of the equipment purchased during the year (Rs. in Lakhs)	438.07132	12.695	Management	450.76632
Others- Indoor badminton court (3) (sq.m)	-	418.06	Management	418.06
Others-Drawing Hall (sq.m)	364.5	167.22	Management	531.72

4.2 Computerization of administration and library

 ➢ Day to day academic and administrative work is made easy with the help of the automation software.
 ➢ The library is fully automated.
 ➢ The students and staff members can view and search the availability of books through OPAC.
 ➢ Barcode reader is used in lending.
 ➢ Entries of the students and staff members into the library are recorded using barcode in their identity card.
 ➢ The central library is connecter with college campus network therefore, OPAC can be utilized from anywhere in the college.

4.3 Library services:

	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books	26378	7336723	443	179432	26821	7516155
Reference Books	8719	2615700	11	32083	8730	2647783
e-Books	14630	1400355	-	-	14630	1400355
Journals	961	544356	81	37300	1042	581656
e-Journals	2416	9120226	636	1530212	3052	10650438
Digital Database	14630	1400355	-	-	14630	1400355
CD & Video	1550	-	-	-	1550	-
Others (specify)	-	-	-	-	-	-

4.4 Technology upgradation (overall)

	Total Computers	Computer Labs	Internet	Browsing Centres	Computer Centres	Office	Depart-ments	Others
Existing	1020	14	50 Mbps	1	1	1	9	1
Added	20	01	24 Mbps	-	-	-	-	2

Total	1040	15	74 Mbps	1	1	1	9	3

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

- ➢ One day training program on "Primavera" was conducted for the students of civil engineering on 17-10-2017.
- ➢ Workshop on "Computer Hardware" for the students of electronics and communication engineering was conducted on 03-04-2018 and 04-04-2018.
- ➢ "Foundation Program in ICT for Education" for staff members has been conducted by IIT, Bombay from 03-08-2017 to 07-09-2017.
- ➢ Hardware and Networking training program for the students of MCA was conducted on 26-09-2017.

4.6 Amount spent on maintenance in lakhs:

i)	ICT	0.912
ii)	Campus Infrastructure and facilities	26.65
iii)	Equipment's	1.24
iv)	Others (Electrical, Transport)	18
	Total:	46.802

Criterion-V

5. Student Support and Progression

5.1 Contribution of IQAC in enhancing awareness about Student Support Services

➢ All the first year students are motivated to avail the services from non-professional bodies such as NSS, NCC, YRC, Fine Arts club, Tamil Mantram, Eco club, EDC, Jyothys (Malayalam association), Women Cell, St. Xavier's Choir, Radio Club, Konverz, Photography Club and Outreach Progamme Cell.

➢ Awareness is given to students regarding the professional bodies like Robotics Club, IEEE Student Branch, IEEE-WIE, IEEE Education Society, IET, ISTE, SAE, CSI, ISHRAE and ACM.

➢ Students are made aware of service bodies like SC/ST Welfare Cell, Health Care Cell, Software Cell, Anti-Ragging Cell, Counseling Cell, Grievance Cell, Student Welfare Cell and Alumni Association.

➢ The objectives and services of each body are explained to the first year students by the co-ordinators or senior members of the bodies.

➢ Students are motivated to join at least any one professional and non-professional body.

5.2 Efforts made by the institution for tracking the progression

➢ The Institute has Alumni Cell that tracks the progression of students. Feedback from alumni is collected during winter alumni meet on every 26th December and also at the day of Graduation.

➢ Online alumni profile and feedback entry is collected through college website.

➢ Mentors keep in touch with their passed out mentees to track their progression.

➢ The Placement Cell and Entrepreneurial Cell of the college collect and keep the record of placed students and students who have become entrepreneurs.

➢ A periodical review after each internal exam and university exam is done by the faculty members and the Head of Department to track the progress of student in academics.

5.3 (a) Total Number of students

UG	PG	Ph.D.	Others
2038	411	17+84=101	--

(b) No. of students outside the state: 95

(c) No. of international students: Nil

Men	No.	%	Women	No.	%
	1219	49.78		1230	50.22

Last Year (2016-2017)						This Year (2017-2018)					
General	SC	ST	OBC	Physically Challenged	Total	General	SC	ST	OBC	Physically Challenged	Total
2044	117	2	300	-	2463	2112	97	-	240	-	2449

Demand ratio = 1.076

Dropout % = 0.0097%

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

- Department-wise special coaching for competitive examinations is conducted by allotting one period per week in the regular timetable.
- Training in answering aptitude questions is provided by departments by allotting one period per week in the regular timetable.
- Orientation programs are also conducted for competitive examinations.
- Placement Cell trains students on quantitative aptitude, reasoning, verbal and mind game in association with Focus Academy for Carrier Enhancement (FACE), Coimbatore.
- A reference section with a collection of latest editions, encyclopedia, rare copies of books, books for GATE, GRE, TOEFL, and other competitive examinations is made available in central library.
- Odel software is used in multimedia language lab for preparing GRE and TOFEL examinations.

No. of students beneficiaries: 622

5.5 No. of students qualified in these examinations

| NET | -- | SET/SLET | -- | GATE | 1 | CAT | -- |
| IAS/IPS | -- | State PSC | -- | UPSC | - | Others | -- |

5.6 Details of student counselling and career guidance

- The counselling cell activities are run with the help of professional counsellors through "Centre of Light".
  - The students were divided on gender basis and one and half counselling session was conducted for each group followed by filling up some questionnaire to spread awareness and to identify the needy. Through this method, a total of 907 students got benefited.
  - This year, a team of four professional counsellors catered to the need of 150 counselees by personally counselling them during the working hours of the college.
  - After working hours, the hostel students were provided with special care by the counsellors. 51 girls and 39 boys of our hostel students were benefited.
  - Mentors also play a major role to counsel the students which is documented through mentoring system and monitored by Dean of student affairs.
- Placement cell provides effective training and career guidance to our students aiming at honing them so as to confront industry expectations in career building and then to get job offers from reputed companies all across the globe.
  - As part of the training, regular trainings are conducted often and special trainings are conducted periodically by our internal trainers' and external trainers'.
  - Soft skills trainings are provided to our students' to enhance communication, interpersonal skills.
  - Quantitative aptitude, logical reasoning, verbal ability, resume writing, interview readiness and group discussion trainings are provided to them to augment their success in interviews.
  - Both communication skills and quantitative aptitude trainings are provided, 2 hours per week along with their regular academic schedule by internal trainers.

- Company specific trainings are conducted to our students' prior to attending MNC's interviews like TCS, Infosys, IVTL Infoview etc. on their respective interview selection process.
- Special seminars were organized on opportunities for higher studies especially in international universities.
- Certificate programmes for the students were organized through software cell.

No. of students benefitted: 1147

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
26	401	245	55

5.8 Details of gender sensitization programmes

- ➢ Women Cell is functioning to promote the general well-being of female students. The following programs were organized through Women Cell in the academic year 2016-2017
  - Motivation programs on Health and Hygiene, Food habits, Goal setting and leadership were organized for girl students.
  - Female students are motivated with legal modules for nation wise competition to create awareness about legal rights of women which is funded by National commission for women and 261 girls were benefited.
  - Around 60 girl students participated in a rally called "Brutality against women campaign" held at Thuckalay.
  - Around 150 girl students participated in an exhibition called "Women Social Reformers" held at Mulagumoodu.
  - International Women's day celebration was held on 12th March under a theme of Equality of women students.

5.9 Students Activities

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

State/University level 148   National level 339   International 130

No. of students participated in cultural events

State/University level 660   National level 2   International --

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

Sports: State/University level 74   National level 24   International 13

Cultural: State/University level 169   National level 3   International --

5.10 Scholarships and Financial Support

	Number ofstudents	Amount
Financial support from institution	300	1,21,45,000
Financial support from government	805	1,15,47,970
Financial support from other sources	-	-
Number of students who received International/ National recognitions	6	2,35,000

5.11 Student organised / initiatives

Fairs: State/University level [73]   National level [11]   International [7]

Exhibition: State/University level [3]   National level [1]   International [1]

5.12 No. of social initiatives undertaken by the students: 25

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

Criterion-VI

6. Governance, Leadership and Management

6.1 State the Vision and Mission of the institution

- ➢ Vision
  - • To be an institution of eminence of optimal human development, excellent engineering education and pioneering research towards developing a technically-empowered humane society.
- ➢ Mission
  - • To transform the (rural) youth into top class professionals and technocrats willing to serve local and global society with ethical integrity, by providing vibrant academic experiences of learning, research and innovation and stimulating opportunities to develop personal maturity and professional skills, with inspiring and high calibre faculty in a quality and serene infrastructural environment.

6.2 Does the Institution have a management Information System

- ➢ Yes, the Institution has a management Information System
  - • The highest body for taking decisions is the Governing Council.
  - • The Academic Council and the IQAC presided over by the Principal discuss different criteria of the college and decisions are proposed to the Governing Council for approval.
  - • The management conveys their decision and information are circulated to the staff members through circulars in the automation software regularly.
  - • The Heads of Departments ensure the regular functioning of the department in coordination with other staff members in the department.
  - • Regular meetings with the Staff members are conducted to discuss and decide on matters relating to academics.

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

6.3.1 Curriculum Development

- ➢ The Curriculum is planned and designed by the Anna University.
  - • Extra syllabus is planned in the department and conducted by course in-charges to cope up with the current academic scenario.
  - • Skill development programmes and value added programmes are also conducted in the college.
  - • Syllabus for value education is framed by our own institution and delivered by the faculty members.

6.3.2 Teaching and Learning

- ➢ Teaching

  - • Two day faculty orientation program was conducted by BITS Pilani, Hyderabad Campus to the faculty members of Department of Management Studies on 02 and 03-03-2018 to improve the quality of teaching-learning process.
  - • Academic audit is carried out every semester by IQAC and by the Academic audit committee to ensure the quality teaching.
  - • Subject allocation for the next semester is completed by asking choices for the subjects by the Head of the Department at the end of the current semester.
  - • IQAC provides guidelines to prepare course file.

- Faculty members prepare the course file for their subjects, and delivers as per the plan so that students attain the intended course outcomes, programme outcomes and programme specific outcomes.
- Teaching is done using chalk & board, OHP, LCD projectors, and using subject-related videos.
- Assignments and seminars are given to students on all subjects to gain knowledge and increase their searching skills form various platforms.
- Skill development programmes and value added programmes are also conducted to gain additional skills and knowledge.
- Besides regular classes, special training to the students by eminent academicians and industrial persons is arranged.
- The alumnus also helps in giving seminars on the current scenario on various subjects.

➢ Learning

- Participatory learning methods like student seminar, group discussion, assignment, quiz etc. are practiced to improve the learning skills of students.
- Students are encouraged to do short-term project work in each semester based on the subject to improve practical knowledge.
- The library is digitalised and membership in NDL assists in fast search and access of information and provides keyword search facility to search for book availability.
- Library is accessible beyond the regular college schedule by students and the staff members.
- Library hours are included in the regular class timetable to promote library usage.
- Personal care with individual approach is given to all the students. Slow learners are given special attention by the teacher and the mentor.
- Coaching class for slow-learners is conducted after the class hours and in the weekends by the subject staff members.
- Encouraging and guiding students to attend seminars and conferences in the college and other colleges.
- The various awards and rewards are given to the students by the college and university rank holders are also rewarded.
- NPTEL video, DELNET and EduSat facility are available for additional learning.

6.3.3 Examination and Evaluation

➢ Examination

- Two question papers for internal assessment examination are prepared by the faculty members and submitted to the exam cell through the Exam Cell representatives.
- Cognitive levels, course outcomes and program outcomes of each question of the internal examination are specified in the question paper.
- The Exam Cell, IQAC member and HoD verify and scrutinize the question papers as per the rubrics set by the IQAC.
- Centralised examination is conducted in the college by preparing common timetable for the whole college.
- The course instructor conducts class tests from time to time on completion of each unit and marks are updated.

➢ Evaluation

- Three internal assessment tests are conducted to evaluate the students in every semester as per the norms of Anna University.
- Central evaluation scheme is practiced to evaluate the answer scripts.
- The internal assessment test marks are entered in the college automation software.
- The evaluated answer scripts and the mark entry in the automation software are randomly scrutinized by HoD, PG coordiantors and IQAC members as per the rubrics provided by the IQAC.

6.3.4   Research and Development

➢ The institution has been granted 2 (f) and 12 (B) status by the UGC.
➢ MoUs with Campus Universitario de Vigo, Spain and Universidade de Aveiro, Portugal have been signed.
➢ Dean-Research is appointed to coordinate the research activities in the college.
➢ Five research works have been applied for patent.
➢ Research groups are formed and meetings are conducted regularly to share their ideas on the latest trends in research.
➢ Weekly research colloquium is conducted to improve the research ambience.
➢ Research facilities of the institution are being improved by the procurement of quality equipment in each department, updated library facilities and subscription of research journals.
➢ Six of our departments are research centres under Anna University and the college is working towards making all departments as research centres.
➢ Tech Fest is conducted every year to showcase the technical knowledge aof the students and research ambience through paper presentation, project demonstration and poster presentation.
➢ Blueberries Innovator of the Year award and Fathima Best Project Award were introduced to encourage students in research.
➢ Currently 50 staff members are working in the institution with Ph.D. degree.

6.3.5   Library, ICT and physical infrastructure / instrumentation

➢ Library

- Well-equipped library is there in our college with different library books, journals and e-journals.
- The college library has reading space with the facility for downloading e-journals.
- Barcode system is in practice for entry into the library and book lending.
- Availability of the library books in the library can be viewed through OPAC by staff and students.
- E-resources can be accessed anywhere in the college campus.

➢ ICT

- The internet bandwidth has been increased to 74 Mbps.
- The institution is a member of National Digital Library (NDL) which provides federated searching tools to access the multiple data base.
- DELNET tool is used for accessing books from various institutions across the country which can be accessed through the library.
- Library website can be accessed in the campus through intranet which has got the details of books available in the library, details of books borrowed and returned.
- E-resources can be accessed anywhere in the college campus.

- EduSat programs are accessible in the institution.
- Participation in resource-sharing networks/consortia.
- FDP conducted by IITs can be accessed in our college by the remote centre facility.

➢ Physical infrastructure / instrumentation

- As per the norms of AICTE and the Anna University, Chennai, the Institution fulfils the requirements of physical infrastructure / instrumentation. On introduction of new courses, the management of the college takes necessary steps for up gradation.

6.3.6   Human Resource Management

➢ Dean-Research and Dean-Student Affairs are appointed to manage researchers and students respectively.
➢ API based faculty appraisal system has been introduced.
➢ Detailed roles and responsibilities of all the personnel are given in the college manual.
➢ All the staff members are included for PF and ESI.
➢ Leave facilities on par with the government employees are provided and vacation of 42 days per year is given to staff members.
➢ Regular FDPs and other skill training programmes are conducted to the staff members to improve their quality and skills.
➢ A staff tour is organized every year.
➢ Staff Day and Teacher's Day are celebrated with encouraging gifts.
➢ Awards for best teaching, centum or near to centum results and least-leave taken are given.
➢ Gratuity is provided to staff members who retire.

6.3.7   Faculty and Staff recruitment

➢ On needy basis and after analysing the faculty recruitment requisition is given to the Principal by Heads of Departments.
➢ The Principal forward these requests the management for the recruitment.
➢ The HR committee of the college gets approval from the management and publishes recruitment notification in newspapers and all parishes of the diocese.
➢ The applications from the candidates are collected in the college and scrutinized by the HR committee.
➢ The selection committee with external experts conducts written test and interview.
➢ The applicants are ranked based on the marks obtained in the selection process and the management appoints staff.

6.3.8   Industry Interaction / Collaboration

➢ Institution creates adequate facilities for updating knowledge of researchers in order to meet the growing needs of the industry.
➢ Collaboration with research laboratories, institutions and industries resulted in industrial visit, internship, collaborative research, sharing of research facilities and faculty.

MoUs signed in the academic year 2017-2018

Sl. No.	Date	Name of Institution	Purpose of the MOU	Benefits to Students
1	12.03.2018	Valli Steels Industries Pvt.	Interaction between faculty and students of the institute	Student Projects, Seminars, Guest

		Ltd., Nagercoil	and the workforce of the industry.	Lecture, Industrial Visit.
2	04.01.2018	Raj Infotech (P) Ltd.	Training on selected areas, OJT and Project.	Job training and Project.
3	14.07.2017	Seaview Support Systems Pvt, Technopark, Trivandrum	Interaction between faculty and students of the institute and the workforce of the industry.	Student Projects, Seminars, Guest Lecture, Industrial Visit.

6.3.9   Admission of Students

➢ UG admission

- In the Government single window system, the criterion is, pass in the qualifying examination and admission is made using cut-off marks. The Cut-off mark is calculated out of 200 from the marks secured in Mathematics, Physics and Chemistry in the ratio of 2:1:1 respectively.
- The minimum average percentage in Mathematics, Physics and Chemistry is for SC/ST/MBC-40, BC/BC (M)-45, OC-50.
- Applicants select the college of their choice based on the department and the vacancy position.
- The above said same criteria are followed in the Self-Financing Consortium single window system.

➢ PG admission

- In the Government single-window system, a pass in the appropriate undergraduate program and marks scored in the Tamil Nadu Common Entrance Test (TANCET) are the mandatory criteria for admission. Admission is based on the marks scored in the TANCET.
- In the management quota, a pass in the appropriate undergraduate program and marks scored in the Common Entrance Test (CET) conducted by the Self-Financing Consortium are the mandatory criteria for admission. Admission is based on the marks scored in the CET.

6.4 Welfare schemes for

➢ Teaching and Non-teaching
- Festival advance of Rs. 5,000/- for staff members are given and payable in easy 10 instalments before the financial year ends.
- The class IV employees are given free uniforms in the college.
- Employee Provident Fund facility is provided to all the staff members.
- Employee State Insurance is provided for employees whose Basic Pay + Grade Pay+DA is less than Rs. 15000.
- Cash awards are given to faculty members who produce centum results and near to centum in university examinations.
- One day free yearly trip for all the staff members get-together is arranged by the management.
- Grand Teachers' Day and Christmas Day celebrations are conducted in the college for all the staff members where all are treated with gifts.

- Medical leave, casual leave, study leave and maternity leave are provided by the college to the staff members.
- On duty leave for faculty development programs and conference are provided to faculty members.
- Our college has a staff club for the welfare of the staff members.

➢ Students

- Dean-Student Affairs is appointed to take care of the students' welfare.
- Institute provides freeship by new institutional scholarship scheme, the St. Xavier's Merit Scholarship Scheme (SXMSS) to provide scholarship to 24 meritorious UG students.
- Institute provides 24 freeship to meritorious UG catholic minority students such as Freeship-Dalit Catholic Students and Freeship-Meritorious Catholic Students.
- College provides its own health insurance to all the students.
- Financial Assistance from State /Central/Other National agencies is provided to students
- SC/ST Cell in the institute works for the welfare of SC/ST students and to get scholarship from the Government.
- On duty leave is provided to students to participate in various off campus competitions and the Winners are awarded with cash prize from the college.
- Health Centre with basic medical facilities is available in the college and the Health Care Cell plans, implements and monitors health care activities in the college.
- Students, staff members, alumni and management of the institution extend their financial help to students from economically weaker students for their medical treatment.

6.5 Total corpus fund generated

➢ The Total corpus fund generated is Rs. 4,00,50,127/-

6.6 Whether annual financial audit has been done: Yes

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

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	No	--	yes	IQAC
Administrative	No	--	yes	Management

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

    For UG Programmes: Yes
    For PG Programmes: Yes

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

➢ The college is affiliated to Anna University, Chennai.

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 alumni contribute by giving their feedback during the alumni meeting that are conducted on Graduation Day and on 26th December every year.
➢ In department level also alumni meetings are conducted in the college and in different countries.
➢ Special lectures, seminars and workshops by alumni are arranged on regular basis through departmental Societies.
➢ Scholarships are given to meritorious students by our alumni.
➢ Assist the college in getting placement for the current students.

6.12 Activities and support from the Parent – Teacher Association

➢ PTA meetings are conducted at the departmental level and the suggestions relating to teaching learning process are considered for further improvement.
➢ Students' Progress and attendance records are sent through SMS to the parents regularly.
➢ The results and the progress of the students are discussed in the parent teacher meeting.
➢ Parents meet the mentors after the meetings.
➢ PTA meetings create cooperation between the student, staff and the parents.
➢ Parents suggest and provide feedback for the development of the college during parents meeting.

6.13 Development programmes for support staff

➢ Two orientation program per year is conducted.
➢ The non-teaching staffs are given special training whenever new facilities or labs are added to the college with new technology.
➢ The non-teaching staffs are encouraged to pursue higher studies in their own fields of interest, and incentives are given to those who finish.

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

➢ Green audit is implemented and, the incandescent bulbs are replaced phase by phase with LED bulbs.
➢ The recommendation of the audit team has been considered and efforts are made in replacing all air conditioning units with lesser-star rating to all-star rated system.
➢ Waste disposal is done by separation of waste reusable material, biodegradable and non-biodegradable, The degradable wastes collected from the hostels, canteen and collection baskets from the college premises are fed to two biogas plants of the capacity 15 m^3 and 10 m^3 along with night soil from boys and girls hostels respectively.
➢ 1 kW pilot solar PV power system is connected to the college grid via solar string invertor. It produces an average of 5 units of energy per day, accounting to ~ 2000 kWh per year.
➢ Groundwater is recharged using the grey water and rain water collected in the reservoir is sufficient to water many species of trees, plants, shrubs and lawns.
➢ Many trees are planted in and around the campus to maintain the ecosystem, reduce heat island effects, and help to maintain carbon neutrality.
➢ Green covered football ground of 9900 sq. m also enhances the eco-friendly nature of the college.

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.

- Two sets of internal question papers in accordance with Bloom's taxonomy are prepared by the course instructors during the internal examinations along with detailed key answers for the selected question paper.
- An innovative practice of central valuation system is practiced while valuating the internal examination answer scripts and the marks are entered at once in the automation software.
- Academically sound students are encouraged by means of Endowment Awards, Blueberries Innovator of the Year, Fathima Best Project Awards, cash awards, and trophies.
- In collaboration with ICT Academy, Value added courses like Data Sciences and Big Data Analytics, Web Designing and Scripting, Autodesk AutoCAD, Digital Prototyping and Building Information Modeling using Autodesk Revit are conducted for the students
- Value added courses on Oracle-Database Design, Programing with SQL and PL/SQL have been conducted for IT and CSE Students.
- Established Research Collegiums which are useful for both students and faculty for doing projects and research of interdisciplinary nature in Science & Engineering.
- Research groups are formed among the students and staff to publish research papers and to prepare joint project proposals.
- Dean – Research is appointed to take care of research activities and create a research ambiance in the campus.
- Dean – Students Affairs is appointed to plan for and monitor the students' progression in academic, curricular, co-curricular and extracurricular activities.
- Students are encouraged to go for internship / part-time jobs during summer vacation.
- Remedial classes are organized for students with backlogs and make up classes are organized for slow learners.
- Students, performance in internal exams and laboratories are monitored continuously.
- Student's attendance is assessed with the help of mentoring system along with the support of parents.
- Course preparation and delivery are monitored and made effective through course file audit.
- Interactions with students are made through Staff-Student Consultative Committee meetings.
- Subscribing to technical magazines, journals of high repute and proceedings by subscribing for membership in DELNET and National Digital Library.
- Subscribing to major online journals i.e., IEEE, Science Direct, Elsevier and Springer.
- Encouraging students to participate in extracurricular activities viz., Sports, NCC, NSS, Cultural etc. for acquiring leadership qualities.
- Encouragement and motivation of the faculty to submit proposals for sanction of research grants from national funding agencies.
- A Common Entrance Examination - SXMSS – (St. Xavier's Merit Scholarship Scheme) has been introduced to select 24 meritorious students for engineering stream with tuition fee waiver.

- ➢ Counseling cell encourages the students to cope with academic pressure and helps in reducing the dropout rate.
- ➢ Enhancing student skills through Hiltek, an exclusive training division.
- ➢ Training for GATE is planned in the campus.
- ➢ Sports and games are utilized as a medium for strengthening the students' physical power and mental capability.
- ➢ Course materials have been prepared and made available in institute's automation software. The material can be accessed by students in any computer in the campus.

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

Action Plan	Action Taken Report
Conferences/Training Programs /Workshops	Organized 2 international conferences
Research Papers	Published 37 research papers in journals and 70 in conference proceedings
Funded Projects	Submitted 7 projects proposals and awaiting for grants of Rs.129.31 lakhs
MoUs and Collaborations	3 MoUs signed and 2 collaborations with foreign universities
Placement	374 placement offers. 8% increase in placement over the last year.

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

1. A Comprehensive Course File System is followed which helps in Resource Development for Teaching and Learning.
2. A Comprehensive Value Education with full syllabus is framed and taught to all students inculcating the values of life, ethics and integrity.

Best Practice - I

1. Title of the Practice:

Resource Development for Teaching and Learning-Comprehensive Course File System.

2. Goal:

To achieve fulfillment in teaching experience by effectively designing the course to prepare comprehensive resources to clearly define what we expect the students to learn by the end of the course.

3. The Context:

The vision of the institution is to ensure optimal human development through quality education and to empower them with cutting edge technology and skills to lead a value-based lifestyle.

Considering the enormous amount of facts to be remembered on one side and advanced skills to be developed for coping with industrial demands on the other side we should be sure of our stand in the process of teaching and learning. Defining the important facts and knowledge that the students should acquire involves the teacher to be specific in preparing the course.

Once the goals are identified, translating them into course content is vital. Providing materials based on quality and relevancy is paramount for the student to demonstrate key

learning goals. Well planned teaching and learning methods, field trips, projects, journal exposure, workshops, assignment, discussion, problem sets, etc. enable the students to emerge out with knowledge, skill and with new perspectives in their fields of interest.

4. The Practice:

The course files are prepared by the course instructors for their particular courses. It contains the syllabus, the objectives and outcomes expected of this course. It provides comprehensive information about the course in relevance to the programme connected with. In short, it defines what the student needs to know and be able to do at the end of the course, enabling the teacher and the student to set specific measurable goals.

Mapping: The course is taught with a clear description, objectives and outcomes. The course outcomes are mapped to Vision, Mission, Programme Educational Objectives and Programme Outcomes.

Syllabus and Extra Syllabus: Being an affiliated college, prescribed syllabus is followed for every course. However, extra topics are taught for the following reasons: a) to prepare the rural students from regional language background to understand the engineering concepts. b) to provide current software proficiency training for industrial absorption c) to provide awareness and exposure on real time applications.

Concept Map: Concept maps connect the main objective of the course to its sub concepts through vertical/horizontal connections. Concept maps visually present the information to grasp ideas much more quickly.

References: The course file details provide all the references used to prepare the course content like text books, reference books, additional text and reference books, relevant journal/magazines, related websites providing additional contents and other references.

Scheme of Evaluation, Course Plan and Target: The students are informed about the scheme of evaluation followed, like three internal exams for internal assessment (20%) and university examination (80%). Separate activities are planned for advanced learners to further their vision to compete with the world, whereas the slow learners are motivated and supported to catch-up with the target.

Course Delivery Plan: The dates and total period required to complete every unit of the course are planned meticulously in advance in accordance with internal assessment exams. Special topics were identified for seminar, assignments, interactive, collaborative and self-learning.

Feedback: Students' feedback on teaching and result analysis are used to understand the learning level and to change the teaching strategy. At the end of the course, the students' and staff's feedbacks on the curriculum is recorded and processed further for enriching the course.

Course File Verification and Auditing: Course file prepared by the instructor will be verified and approved by HOD. Later it will be available for scrutinizing by the academic audit member and the Principal.

5. Evidence of Success:

Preparing comprehensive course file may be a tedious and time consuming critical task, but it is very rewarding to achieve the vision and mission of the institution. The success of improvement in teaching and learning practice through course file preparation will be directly reflected on pass percentage, placement success rate, willingness to go for higher education, etc.

Traditional effective and efficient way of teaching learning process may falter under today's learning demand and with present generation of students. Adapting new strategies for effective transfer of knowledge is a challenge in this fast-paced world. For example, adapting

small group discussion technique offers more student participation to learn from peers through clarification and refinement. The contents once prepared for delivery is the baseline resources, which may be used by other course instructors effectively in subsequent years after customization and updation. Continuous assessment of the success of the system is reflected in increased student motivation and performance in learning.

6. Problems Encountered and Resources Required:

Quality and closer to perfection does not come without hard work. Understanding the students and knowing what interests and life constraints conflict with their academic priorities are itself a major challenges of an instructor. Implementing resource development for teaching and learning through comprehensive course file system needs time and resources for preparation. A saying goes like this, 'If you are not planning, you are planning to fail'. If we fail to prepare systematically the deliverables in teaching and learning process, the system fails.

The resources required for comprehensive resource preparation are text books, reference books, additional materials, internet facilities, journal accessibility, etc. A good quality ring file is needed for each course file preparation and it is a useful resource for first time teachers to start the teaching career. Continuous updating of the course file with present trends, examination evaluation pattern, and model question papers is very much needed to draw the benefits of the system.

7. Contact Details:

Name of the Principal   : Dr. S. Joseph Sekhar
Name of the Institution   : St. Xavier's Catholic College of Engineering
City   : Nagercoil
Pin Code   : 629003
Accredited Status   : Accredited by NAAC with 'A' Grade.
Work Phone   : 04652- 232560   Fax   : 04652- 259664
Website   : www.sxcce.edu.in
E-mail   : principalsxcce@gmail.com
Mobile   : 9952001816

Best Practice-II

1. Title of the Practice:

> Comprehensive Value Education System for the Total Development of the Students

2. Goal:

➢ To work for the total development of students and to prepare them to achieve the vision of the institution of developing a technically empowered humane society

➢ To animate the students to have a noble vision and a right value system for their life, avoiding all possible dissipations, so that they become pro-social technocrats and professionals who contribute to the world with humanism and a successful fulfilling life.

➢ To make the students into positive mature persons, who know their unique selves, the vagaries of the society, the potentialities of their profession and have the ability to relate with others maturely and contribute to industrial and human development.

➢ To give the students opportunities to experience the realities of our society and practice their leadership and values that they become reinforced in a value based life.

3. The Context:

Our contemporary Indian society is experiencing a big churning,- while people are very earnest to develop their life by making use of the new opportunities being opened, they are also facing a lot of confusion and tension, violation of human rights and a resurging phenomenon of degradation of life and nature because of wrong priorities and lopsided approaches. With judiciary taking its time for justice, women and children are the major victims in this media saturated world. The social menaces like eve teasing and caste discrimination, and the deep rooted corruption are still a nagging concern to all. Dissipating attractions like drugs, alcohol and even fundamentalism are threats to the healthy development of the students. Helping students to have personal vision for life and healthy relationships and sensitizing them with values such as honesty, hard work, social commitment and patriotism are important. When the staff and the experts sat together with the management to discuss about the total formation of our students, systematic value education program emerged as a task of paramount importance. A clear cut syllabus was developed with a credible strategy to execute it.

4. The Practice:

Providing service oriented high quality education in a wholesome manner for the marginally deprived society with discipline and human touch without discrimination is our goal. Value education starts from the practice of having a five minute prayer, with readings and song every day at the beginning of the college. The Value Education Program courses have been systematically designed to run parallel with the academic curriculum in three phase every year. (Details of curriculum is given in the Table in section 7).

Separate hours have been allotted in the regular schedules for such trainings. Bringing in eminent trainers periodically, for intensive special trainings is in vogue. Recently a comprehensive life planning program has been ushered in from the first year.

Shaping one's life and navigating them in their late teens by exposing their own potentials and helping them to be aware of themselves and their uniqueness and accept themselves as they are and helping them find a fitting place for themselves on the global stage are the initial challenges for wholesome education.

Guiding them to fix their vision and dreams realistically in accordance with their personality makes them self-directed. Developing healthy relationship among peers and with complementary gender without intriguing emotional attachments are imported to develop the

right attributes, attitudes and responses to work together. Attaining autonomy to take care of themselves and independence to take responsible decision for their own problems are instilled in the minds of the young.

Adapting to the changing environments and getting along with others in spite of differences, surviving and thriving in an atmosphere of competition are emphasized in their 2nd and 3rd years. They are asked to uphold the meaning of 'Universality', as unity in diversity, which is further stated as unity is not uniformity. Personal commitment and leadership skills are inducted to develop their personality to take up social responsibilities and group/team activities with a deep understanding of the dynamics of the society by social analysis. Exposure programs like village visits, social work camps, eco-friendly activities, and programs for school children help them explore their values. Opportunities for choosing the appropriate platforms to groom and nurture their own individual skills and leadership styles are provided for wholesome development.

While CETA (the training cell), Students Welfare Cell, and Counselling Cell come together in the training of the students, NCC, NSS, Women's Cell, Girl Rising, Eco-Club, Science Forum and other many professional associations help animating students and often form platform for the exercise of the values they learn.

5. Evidence of Success:

➢ Increasing participation of our students for the social causes such as helping the needy, visiting old age homes, empowering girl child, adopting orphanages, voters awareness programs, blood donations, celebrating national festivals in under-privileged village atmosphere, etc. is a very encouraging sign of success.

➢ The cordial relationship that exists among the students of various backgrounds and departments, and between the staff and students is encouraging.

➢ It is pleasing to see our alumni have developed themselves into wholesome persons taking life's success and challenges equally. Their professional leadership with amiable and loyal attitudes have received appreciation from their bosses and recruiting companies and have increased the effectiveness in their domain of influence. That is one of the reasons why placement record of our colleges is steadily on the increase.

➢ It is motivating and encouraging to find that none of our alumni has been accused of involving in any sort of corruption or anti-social activities. The testimony by their recruiters and especially by their spouses about their pleasing character, is the success of this movement.

➢ Some students take up projects that are connected with the enhancement of the lives of ordinary people.

➢ Agreeing to disagree, values of tolerance, harmony and peace at any cost, values for cooperation, etc. are some of the professional ethical values they have adopted from these initiatives.

➢ Students practice life principles like humility, simplicity, love, peace, interdependency among human beings, etc. in their own home to have a fulfilling life.

6. Problems Encountered and Resources Required:

All good things come at a price. Getting resource persons who only give a talk is easy; but the one who walks the talk is more important to make a lasting impression in the minds of the younger generation, who are watchful and evaluate critically. Providing right models to emulate is very powerful and contagious. Lack of conducive environment and resources for nurturing these ideal ethics such as social environment, human resources, financial resources and appropriate time for training is a challenge. Due to the presence of

more day scholar students in the institution, we struggle to find appropriate slots to have lengthy workshops with practice in real life situations. Moreover, balancing the pressures of academic curriculum and professional growth along with these very much needed value based courses and activities is a challenge for the students, mainly because of the constraints in time and residence.

7. Notes: Curriculum Details:

Curriculum for the co-curricular activities for the total development of students:

Year	Phase – I	Phase - II	Phase - III
1st Importance of Life	Understanding oneself and one's uniqueness, Self-awareness, Self-acceptance, Self-esteem, Self-confidence, Sense of gratitude.	Understanding one's purpose of life and finding a place in the universe (identity) and accordingly fixing vision/dreams for one's own life.	Manners and etiquettes, Respecting superiors and peers, Mature communication, Healthy relationships with institution, authorities, peers and opposite gender, Gender quality.
2nd Developing of Value System	Attaining personal autonomy, Self-determination to study well and develop into good engineer, Independent decision making.	Knowing the place of technology in the society, choosing what is right and developing a set of personal values and priorities to practice one's vision of life.	Being genuine and serene, Facing challenges of life, Emotional management (EQ), Personal problem solving skills, Eco friendliness.
3rd Experimen- tation and Leadership	Taking up responsibilities and developing leadership, learning technology with social commitment to ameliorate the pains of others and for industrial development.	Developing social awareness by social analysis and exposure programs, understanding peoples' need, Conviction of social harmony and inclusive development, Social Commitment.	Organizing groups, evolving programs for social activities through college professional associations, using technology to empower ordinary people and find solutions for them etc.
4th Beginning Life of Fullness	Foretasting professional life, Planning for a long professional life, Planning for life in adulthood, Learning to balance personal, Professional and social challenges of life, Loyalty to the institutions.	Learning mature social relationships, Developing projects and programs for social development and harmony, Planning to make use of education and profession to achieve personal vision and find meaning in life.	Learning to develop professional networking, Support systems for social contributions, making a difference by Innovation and pro-social entrepreneurship, Finding meaning in life.

8. Contact Details:

Name of the Principal	: Dr. S. Joseph Sekhar
Name of the Institution	: St. Xavier's Catholic College of Engineering
City	: Nagercoil
Pin Code	: 629003
Accredited Status	: Accredited by NAAC with 'A' Grade.

Work Phone   : 04652- 232560   Fax   : 04652- 259664
Website   : www.sxcce.edu.in
E-mail   : principalsxcce@gmail.com
Mobile   : 9952001816

7.4 Contribution to environmental awareness / protection

- ➢ Planting of trees in the campus and new gardens installed.
- ➢ Rain water harvesting and trip irrigation done for the sake of water conservation.
- ➢ Conducting environmental awareness workshops/seminars by inviting the experts.
- ➢ Tree plantation is also done to set right the loss of trees during *Ockhi Cyclone.*
- ➢ Participation in the Swacha Bharath campaign.
- ➢ During the technical festival of the institution several models and posters have been prepared by the students to increase awareness on several environmental issues.
- ➢ We care about energy conservation, effective use of renewables, water management system, plantation and landscaping, carbon neutrality measures and hazardous and E-waste management system
- ➢ Movement of thoroughfare vehicles inside the campus is completely stopped.

7.5 Whether environmental audit was conducted? Yes ✓   No ☐

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

Strength

- ➢ Commitment of management towards proving high quality education
- ➢ NAAC accreditation with 'A' grade
- ➢ 2 (f) and 12 (B) status of the college
- ➢ 374 placement offers this year
- ➢ Scholarships and financial assistance to students
- ➢ Well established brand name in the region
- ➢ Good location of the Institution
- ➢ MoUs with different industries and institutes
- ➢ Dedicated and qualified faculty and staff members
- ➢ Strong alumni association
- ➢ University approved research centers in 6 departments
- ➢ Well-equipped advanced laboratories and high-end Software
- ➢ Well-furnished centralized computer labs with LAN connection
- ➢ Wi-Fi campus
- ➢ Library with large number of hard copy and soft copy books with different titles for different branches
- ➢ Specified reading rooms for students and faculty members in the library
- ➢ Hard copy and online Journals, repository of NPTEL online lectures
- ➢ Ragging free campus
- ➢ CETA for training and career development activities
- ➢ Large number of research publication by the faculty members
- ➢ Good faculty retention
- ➢ Good academic ambience
- ➢ Well established sports facilities.

Weakness

➢ Industry experienced faculty members are less in number
➢ A few Industries in the locality
➢ Very few industry sponsored laboratories.

Opportunities

➢ NBA accreditation for all programs
➢ Higher grade in NAAC accreditation
➢ International accreditation
➢ Growth of automation and artificial intelligence fields
➢ Government policies in the area of skill development and quality enhancement.
➢ Enhance interaction with industry
➢ Collaborative research project with industry
➢ Academic excellence
➢ Further strengthen the Alumni Association
➢ Parents' willingness for higher education of their wards.

Challenges

➢ Cope up with rapid technological change
➢ Admission of quality students
➢ Market dullness in engineering stream
➢ Entry of industrial giants into the market and making the competition tough.

8   **Plans of the Institution for Next Year**

1. Obtain NBA accreditation for three UG programs EEE, ECE and ME.
2. Prepare the remaining three UG programs for NBA accreditation.
3. All faculty members shall attend at least one online course conducted by online course providers like Swayam, Coursera, Moodle etc and produce certificate.
4. Motivate students to complete online courses.
5. Each department to obtain grant from external agencies to conduct faculty development program of at least one week duration.
6. 20% increase in the number of faculty members attending faculty development program of at least one week duration.
7. Research committee to motivate the departments to obtain at least two funded projects per department.
8. Research committee to motivate the department to go for funding from private agencies.
9. Departments to guide students so that there is a minimum of three publications by students in indexed refereed journals.
10. Strengthening institute-industry linkages.
11. At least one value added course to be prepared and conducted by each department.
12. Improving online alumni feedbacks.
13. Departments to conduct at least five enrichment program in a semester.
14. Mentoring to develop the students and improve the results.
15. Student Affairs to arrange coaching for the improved performance of students in examinations like GATE, UPSC etc.
16. Improving the number of SC/ST admissions.

Name: Dr. A. Milton   *Name: Dr. S. Joseph Sekhar*

Signature of the Coordinator, IQAC   *Signature of the Chairperson, IQAC*

Annexure i

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

Annexure ii

2017-2018 Feedback Analysis

Students Feedback Analysis

Academic Year :	2017 -- 2018
Semester :	(1,3,5,7)
Department :	All Department

	Assessment Element wise Analysis							
Sl. No.	**Assessment Element**	**Total Courses**	**0% - 49%**	**50% - 59%**	**60% - 69%**	**70% - 79%**	**80% - 89%**	**90% - 100%**
1	Punctuality of the teacher	330	3	9	50	111	101	56
2	Audibility of teacher's voice while teaching	330	5	21	58	116	88	42
3	Readability of teacher's writings on the board	330	7	22	63	111	82	45
4	The teachers ability in keeping the class in attending mode	329	5	29	67	110	84	34
5	The teacher explains the course description, objectives and outcomes, also connects course outcomes to program outcomes, vision and mission	330	5	31	64	123	71	36
6	The teacher meticulously explains the major and minor concepts of the subject and the relations among the concepts	329	4	27	72	113	86	27
7	The teacher handles the class in such a way that I understand the concepts and the teaching stimulates interest in the subject	330	6	26	76	108	84	30
8	The teacher prepares the students for the university examination	329	5	19	66	119	88	32
9	The teacher is enthusiastic about teaching and uses different teaching methods	330	8	31	67	108	85	31
10	The teacher uses technologies and ICT facilities like PPT, NPTEL, EduSat, animation, video etc.	329	12	47	84	102	60	24
11	The teacher makes me improve my creativity	331	8	34	78	108	76	27
12	The teacher provides opportunities to improve my employability skills	331	6	35	81	106	75	28

13	The teacher takes special efforts to clarify questions raised by students and interacts with students during lecture	331	4	26	76	111	77	37
14	Teaching method of the teacher satisfies the needs of advanced learners	331	3	26	79	106	87	30
15	Teaching method of the teacher satisfies the needs of slow learners	331	6	30	73	112	80	30
16	The teacher uses student seminars to improve the participation of students	331	5	25	77	116	77	31
17	Assignments are given for both advanced and normal learning	330	4	30	70	112	82	32
18	The teacher gives importance and uses cooperative (group) learning to improve the study habit of the students	330	6	28	78	107	83	28
19	The extra syllabus makes me to know more about the subject like basics and real life applications	331	6	35	73	113	77	27
20	The teacher uses and inspires me to refer additional materials apart from the university prescribed books	330	5	29	74	116	83	23
21	The teacher completes the syllabus on time	331	3	20	70	116	87	35
22	The teacher uses continuous assessment methods to measure my level of learning	331	5	24	80	107	91	24
23	The question papers set by the teacher test different cognitive levels and attainment of course outcomes and program outcomes	331	5	29	73	110	85	29
24	The teacher evaluates answer scripts and assignments on time, the evaluation makes me understand my strength and weakness and he/she handles the reported grievances with concern	331	5	18	76	114	89	29
25	The teacher shows interest in getting feedback from the students and responses appropriately	331	5	31	72	110	86	27
26	The teacher analyses the students' performance in the internal assessment tests, class tests, assignments etc. and discusses the analysis with the students in the class	331	5	23	70	120	90	23
27	The teacher changes the teaching strategy	331	5	25	79	110	87	25

|			0% - 49%	50% - 59%	60% - 69%	70% - 79%	80% - 89%	90% - 100%
28	The teacher conducts special examinations and classes for the needy students	331	4	34	75	117	75	26
29	The teacher is impartial towards all the students	331	2	24	71	120	79	35
30	The teacher discusses and collects feedback from students on the university syllabus	332	3	31	67	109	94	28
31	My overall rating of the teacher is	86	0	5	16	25	30	10

Academic Year :	2017 -- 2018
Semester :	(2,4,6,8)
Department :	All Department

	Assessment Element wise Analysis							
Sl. No.	Assessment Element	Total Courses	0% - 49%	50% - 59%	60% - 69%	70% - 79%	80% - 89%	90% - 100%
1	Punctuality of the teacher	270	1	0	33	99	92	45
2	Audibility of teacher's voice while teaching	270	1	7	44	98	88	32
3	Readability of teacher's writings on the board	270	0	11	55	94	78	32
4	The teachers ability in keeping the class in attending mode	270	1	14	58	90	78	29
5	The teacher explains the course description, objectives and outcomes, also connects course outcomes to program outcomes, vision and mission	270	1	9	57	97	77	29
6	The teacher meticulously explains the major and minor concepts of the subject and the relations among the concepts	270	1	12	53	94	81	29
7	The teacher handles the class in such a way that I understand the concepts and the teaching stimulates interest in the subject	270	2	13	52	91	85	27
8	The teacher prepares the students for the university examination	270	1	9	50	91	90	29
9	The teacher is enthusiastic about teaching and uses different teaching methods	270	2	11	61	89	78	29

10	The teacher uses technologies and ICT facilities like PPT, NPTEL, EduSat, animation, video etc.	270	6	14	74	82	67	27
11	The teacher makes me improve my creativity	270	3	19	65	76	82	25
12	The teacher provides opportunities to improve my employability skills	270	2	16	59	90	79	24
13	The teacher takes special efforts to clarify questions raised by students and interacts with students during lecture	270	1	9	55	92	88	25
14	Teaching method of the teacher satisfies the needs of advanced learners	270	2	10	57	86	89	26
15	Teaching method of the teacher satisfies the needs of slow learners	270	1	13	62	84	84	26
16	The teacher uses student seminars to improve the participation of students	270	1	11	54	93	78	33
17	Assignments are given for both advanced and normal learning	270	1	7	57	91	85	29
18	The teacher gives importance and uses cooperative (group) learning to improve the study habit of the students	270	2	11	60	88	88	21
19	The extra syllabus makes me to know more about the subject like basics and real life applications	270	2	10	65	84	84	25
20	The teacher uses and inspires me to refer additional materials apart from the university prescribed books	270	1	16	52	90	88	23
21	The teacher completes the syllabus on time	270	1	8	48	94	90	29
22	The teacher uses continuous assessment methods to measure my level of learning	270	1	12	49	105	80	23
23	The question papers set by the teacher test different cognitive levels and attainment of course outcomes and program outcomes	270	2	8	54	96	85	25
24	The teacher evaluates answer scripts and assignments on time, the evaluation makes me understand my strength and weakness and he/she handles the reported grievances with concern	270	0	10	60	90	82	28
25	The teacher shows interest in getting feedback from the students and responses	270	2	11	52	97	83	25

	appropriately							
26	The teacher analyses the students' performance in the internal assessment tests, class tests, assignments etc. and discusses the analysis with the students in the class	270	1	9	56	88	89	27
27	The teacher changes the teaching strategy based on the feedback and performance of the students	270	1	12	60	78	93	26
28	The teacher conducts special examinations and classes for the needy students	270	1	11	55	95	83	25
29	The teacher is impartial towards all the students	270	0	7	55	87	88	33
30	The teacher discusses and collects feedback from students on the university syllabus	270	1	11	56	89	84	29
31	My overall rating of the teacher is	270	0	8	44	97	80	41

Alumni Feedback Analysis

Feedback Element	Overall Rating in %				
	Excellent	**Very Good**	**Good**	**Fair**	**Bad**
Curriculum Planning and Delivery	23.33	56.67	20	0	0
Curriculum Enrichment	20	50	30	3.33	0
University Curriculum	30	36.67	33.33	0	0
Teacher Quality	16.67	46.67	30	3.33	0
Teaching-Learning Process	26.67	36.67	36.67	0	0
Evaluation Process	13.33	43.33	40	3.33	0
Research Ambience	13.33	53.33	33.33	0	0
Research Facilities	30	60	10	0	0
Infrastructure	40	46.67	10	3.33	0
Library Facilities	40	43.33	16.67	0	0
Lab Facilities	30	46.67	23.33	0	0
IT Facilities	20	40	40	0	0
Support Services	30	40	30	0	0
Management and Administration	20	40	40	0	0
Feedback Mechanisms	30	40	30	0	0
Innovative Practices	20	56.67	23.33	0	0
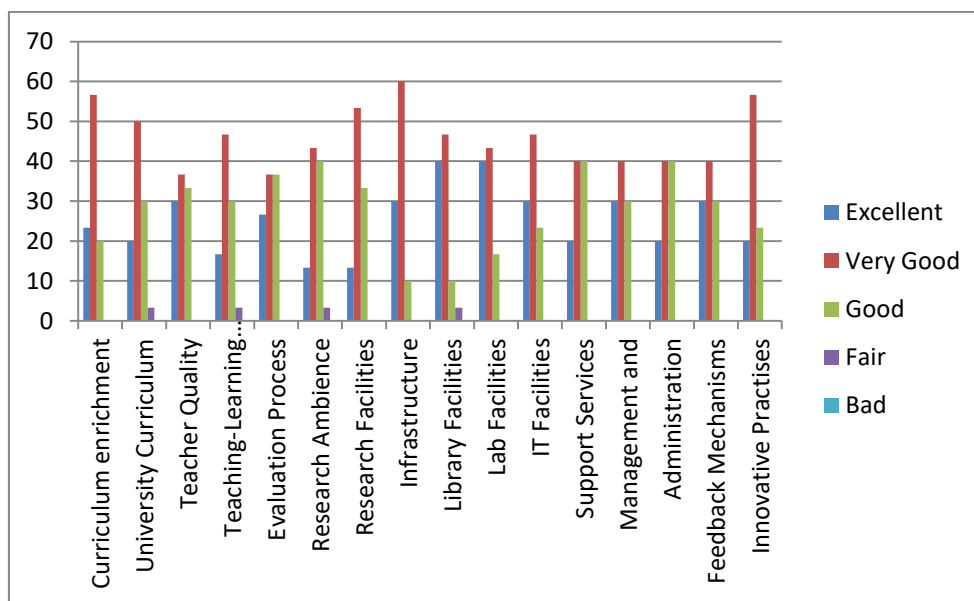
Employer Feedback Analysis

Intern's performance is evaluated by using the scale below:

1	2	3	4	5
Needs more education	Performance below expectations	Satisfactory performance	Above average performance	Excellent performance

Sl. No.	Employer	General								Performance in Their Assigned Job						
		Attendance	Punctuality	Dress Code	Attitude	Ethical behavior	Enthusiastic	College Curriculum provide support for his/her job Research culture	Research culture	Sufficient knowledge in their field of expertise	Communication skills	Written Communication Skills	Analytical skills – Problem analysis with appropriate action	Uses technical skills acquired from institution	Meets targets within their allotted timeframe	Takes initiative to get a job done by overcoming obstacles
1	IVTL Infoview Technologies (P) Ltd.	5	5	4	4	5	5	4	3	4	4	3	4	3	4	4
2	Software Solutions Pvt. Ltd.	4	4	5	5	5	4	4	5	5	5	5	4	4	4	4
3	Software Solutions Pvt. Ltd.	5	5	4	4	5	5	4	5	5	4	4	5	4	5	5
4	IVTL Infoview Technologies (P) Ltd.	5	4	4	5	4	4	4	4	4	4	3	4	4	4	4
5	IVTL Infoview Technologies (P) Ltd.	5	5	4	4	4	4	3	3	4	4	4	4	3	4	4
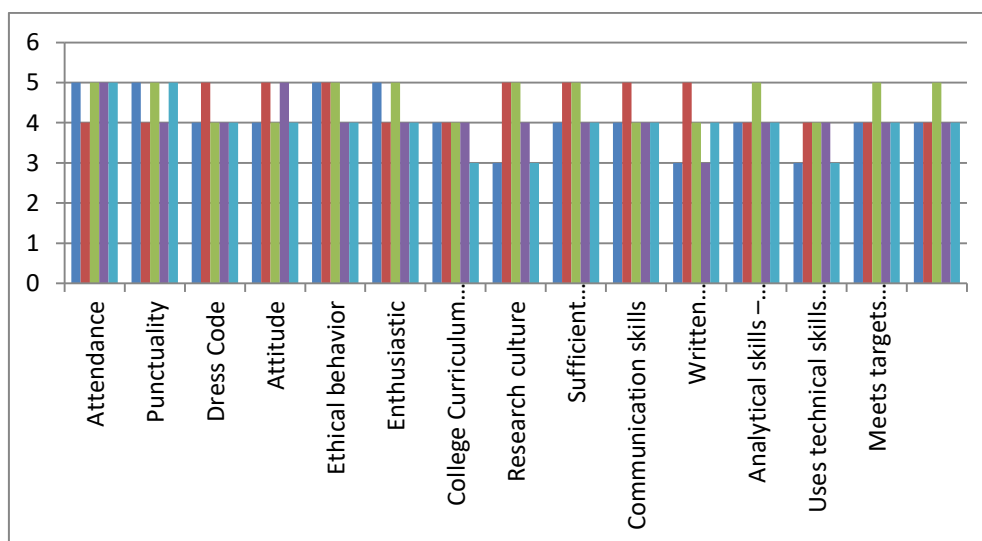
Parents Feedback Analysis

Total Number of Parents' Response: 441
Feedback rating in percentage

Rating	The Teaching-Learning Environment	System of Monitoring Student's	Competence & Commitment of Faculty	Encouragement provided to students for	Response to Community Needs and	Promotion of Self Study & Attitude of	Infrastructure Facilities	Learning Resources such as Library,	Support Services like College bus,	Enhancement of Student's Personality	Institutional Sensitivity to changing	Value Based Education	Discipline Practices	Parental Pride & Respect for the College	Response & Communication with the
Excellent	33.79	23.13	33.33	26.76	24.04	26.08	39.68	36.28	29.48	26.3	25.17	25.4	32.65	37.87	29.25
Very Good	35.37	39.46	35.6	32.65	37.41	39.46	38.55	44.67	34.24	34.01	27.44	43.08	30.84	36.28	33.56
Good	30.39	31.75	30.84	33.33	31.97	28.8	18.37	16.55	31.52	34.47	36.28	26.98	28.34	22.9	28.34
Average	0.68	2.72	1.81	5.9	3.63	2.49	0.45	1.59	2.04	3.4	4.76	2.72	8.16	0.68	2.72
Below Average	-	0.23	-	-	-	-	-	-	0.23	0.68	0.23	-	-	-	-