

# **SELF STUDY REPORT**

**FOR**

**2<sup>nd</sup> CYCLE OF ACCREDITATION**

**LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING**

L.B. REDDY NAGAR MYLAVARAM KRISHNA DISTRICT INDIA, PIN - 521230

521230

[www.lbrce.ac.in](http://www.lbrce.ac.in)

Submitted To

**NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL**

**BANGALORE**

**January 2018**

# 1. EXECUTIVE SUMMARY

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## 1.1 INTRODUCTION

LBRCE was founded through Lakireddy Bali Reddy charitable trust in 1998 by a philanthropic NRI Sri Lakireddy Bali Reddy, a Chemical Engineer by qualification and a reputable entrepreneur.

LBRCE offers 8 B.Tech programmes in CSE, IT, ECE, EEE, MECH, CE, Aerospace Engineering & EIE, 5 M.Tech programmes in Computer Science and Engineering, Thermal Engineering, Software Engineering, Power Electronics and Drives & VLSI & Embedded systems, in addition to MBA and MCA programmes.

LBRCE is an ISO 9001:2015 Certified institution, approved by AICTE and is affiliated to JNTUK. LBRCE accredited with 'A' Grade by NAAC in 2012. NBA accorded the status of Accreditation for the eligible UG programs. The college has been awarded 2 (f) and 12(B) status and CPE by the UGC. LBRCE is identified as NPTEL Local chapter. LBRCE got AAA+ Rating in India's Best Engineering Colleges by Careers 360 and The Govt. of AP awarded 'A' Grade to LBRCE.

LBRCE has well qualified and experienced faculty involved in teaching-learning and R&D activities. We are currently handling 12 projects sanctioned by DST, UGC, and AICTE with worth of 450 Lakhs. Five departments are identified as research centres by JNTUK.

The promoters of the LBRCE started the college with a vision to empower the students to become technologically vibrant, innovative and emotionally matured to face the challenges of quality conscious globalised world economy. The major objectives of the trust are to promote educational facilities to the economically poor students and the management is providing financial help to the merit students.

### **Vision**

To empower the students to become technologically vibrant, innovative and emotionally matured and to train them to face the challenges of the quality conscious globalized world economy.

### **Mission**

- To provide an environment most conducive to learning and to create a stimulating intellectual atmosphere on the campus.
- To achieve Academic Excellence.
- To ensure a holistic development of personality.
- To spread education to rural areas.
- To establish partnership between Institution & Industry.

## 1.2 Strength, Weakness, Opportunity and Challenges(SWOC)

### **Institutional Strength**

- One of the most preferred, engineering colleges situated in a serene rural place of coastal AP
- Learned, pro-active and visionary management readily responding to the needs and aspirations of all stake holders towards quality education, placements and good governance.
- A highly decentralized administration, governed by a well defined and transparent quality policy. Managed by different committees formulated satisfying the requirements of statutory bodies with GB as the highest policy making body.
- College was accorded permanent affiliation by JNTUK in 2010, 2013 and also in 2016 for a period of three years consecutively.
- NBA accorded the status of Accreditation for 3 years to the eligible UG B.Tech programs in 2008 and reaccredited in 2015 under Tier-I.
- Good financial discipline through appropriate budgeting and allocation.
- Aesthetically designed, spacious and fully computerized library with 39200 printed books and 135000 e-books, 6000 + hours of video courses, digital learning resources are made available. Subscription to online journals worth about Rs.15 lakhs every year with facilities such as video conferencing, discussion rooms are also made available.
- 50% of the young faculty members have undergone pedagogical training programs on various subjects.
- Feedback taken periodically from students & stake holders is given due weightage for taking corrective measures to strengthen the teaching learning process.
- Semester scheme with continuous assessment.
- Effective Teaching-learning process with use of ICT.
- Sports, NCC and Yoga facilities
- Service oriented extension activities through NSS
- Mandatory Certification courses for students as well as faculty
- Personality and skill development programs
- Good ambience through infrastructure facilities.

### **Institutional Weakness**

- Geographically located in rural region.
- Limited Industry-Institution Interaction and limited association with premier academic and R&D organizations.
- Not having full residential facilities for students and staff.

### **Institutional Opportunity**

- Starting recognized research centres for departments to enhance research activity.
- Financial assistance from Central Government under TEQIP and other funding organizations.
- Collaboration with industry, R&D organizations and educational institutes of eminence.
- Obtaining quality certification for testing equipment to enhance testing and consultancy.
- Inducing students to take international certification examination, foreign language etc
- Establishing project centres under AQIS programme of AICTE to address the environment issues related to coastal regions.
- Library enhancement to access international knowledge resources.
- Growing Industrialization and IT hub in and around Vijayawada (40 km. from the college) for enhanced industry-institute interaction.
- Inculcating the culture of entrepreneurship to rural youth through technology transfer.

- Enhanced support from Alumni in institutional development and placement opportunities.

### **Institutional Challenge**

- Recruiting Ph.D qualified and experienced faculty
- Increased financial drain due to the increasing obsolescence rate with change of technology.
- Sustaining competitive capabilities with onslaught of foreign institutions and geographical expansion of existing reputed Universities.
- Tendency towards software R&D rather than integrated software and hardware research
- Focus on overall development
- Obtaining the services of specialized guest and visiting faculty
- Maximizing ICT enabled pedagogy
- Computerizing the administrative activities to ensure e-governance

## **1.3 CRITERIA WISE SUMMARY**

### **Curricular Aspects**

The autonomy status granted for our college makes it mandatory to adopt a new curriculum every three years at least. Accordingly our college has implemented new regulations and curriculum. The objective of the new curriculum is to provide improved flexibility and wider coverage of courses in every program offered and suitability for industry requirements.

CBCS is taken as an objective since new regulations R17 are to be implemented at our institute.

The following are included in the context of curriculum design with focus on CBCS.

- Academic flexibility
- Add-on courses
- Self study courses
- Provision to do projects in Industry
- Industry based project / In-house training
- Provision to take break of study
- Weightage for attendance
- Open electives
- Co-curricular / Extra - curricular activities (Mandatory)
- Mandatory courses (Employability enhancement skills, problem assisted learning & problem based learning)
- Presentation Skill Lab
- More laboratory courses

The following policies and methods are adopted:

- Academicians from IITs and NITs and Industry experts are included as BoS members.
- At least three different regulations and curricula are studied for comparison.
- Modification of course outcomes (COs) and program outcomes (POs).

- Assessment procedures are suitably modified.
- The improvement in OBE implementation.

**The process used for attaining the POs and PSOs as mentioned:**

- Alumni feedback.
- Industry person's feedback.
- Outgoing students' feedback.
- The information from all the above is discussed and deliberated in faculty meetings, BOS meetings and academic council/Governing Body.

**Teaching-learning and Evaluation**

With the brand name the demand of the LBRCE increased year by year resulting in 95% seats getting filled through state level entrance exam EAMCET and category-B seats.

The institute having the policy of recruiting well qualified and experienced faculty as per AICTE and UGC norms has contributed to better implementation of Teaching-Learning process. The teachers of LBRCE have developed a passion towards their profession. The subjects are assigned to the faculty members based on their competency matrix, specialization and experience. Well ahead of the start of the semester, teachers prepare an elaborate lesson plan. Innovative processes in Teaching and Learning like ICT tools and modern pedagogical techniques, Project based labs, etc are adopted by the LBRCE faculty.

To bridge the gap between the institute prescribed curriculum and requirements of the industries, suitable additional topics are covered in every theory and laboratory course. Students' subject knowledge is further strengthened by relevant guest lectures, workshops, conferences etc. The regular classes are complimented and supplemented with tutorial classes. Bridge courses are also organized for the freshers, slow learners and lateral entry students.

Moving towards the 'outcome based approach' in the teaching-learning-evaluation process, every programme in the institution has formulated a set of PEOs, POs and PSOs. Apart from this, a set of COs have been framed for each course. Systematic procedures have also been devised for assessing the attainment of these Outcomes. The appropriate collective measures are adopted based on the attainment levels observed every year.

**Research, Innovations and Extension**

Being a distinguished centre for higher learning, the college promotes research in all

areas of science, engineering and technology. Four departments of LBRCE have been recognized as research centres by the affiliating university i.e., JNTUK Kakinada. To promote the research culture among the students LBRCE started the Innovation and Incubation Centre. Moreover, a R&D cell has been established with eminent academicians as members. The research activity is progressive and proactive with 400 publications with H-index of 38. 208 Funded projects worth of 250lakhs have been sanctioned and many of them have been successfully completed.

Subscription to online e- journals, Budget allocation for R&D is some of the initiatives taken by the institution

to further promote the research activities.

**A National MEMS Design Centre (NMDC)** at our institute has been established in the year 2011 under National Program on Micro and Smart Systems (NPMASS) for the benefit of users from the nearby isolated region. LBRCE motivates the research activity in the field of MEMS.

The following labs/centres also help to provide scientific temper and cultivate research aptitude in the faculty and students:

- Micro Soft Innovation Centre
- E YANTRA LAB
- NI LABVIEW
- Green Energy Technology Centre
- CISCO Lab
- ANSYS Skill Development Centre

LBRCE is equipped with NSS and NCC 4(A) Girls Bncc Unit those take up various service oriented activities like Programs on Road Safety, First Aid Training etc. in and around the region.

### **Infrastructure and Learning Resources**

The college has all the necessary facilities with experienced and well qualified faculty members to develop the young minds with high academic ambience. In tune with the increasing enrolment, there has been marked improvement in infrastructure facilities. Academic blocks with state of the art labs, workshop, and standby generator, new hostels, extra canteens, mess, dining halls and sewage treatment plant are some of the infrastructural developments in the last five years. The college also has adequate space and amenities to conduct competitive exams like GATE and organize National level competitions.

The College is committed to promote sports activities towards the all-round growth of its students. The campus has 6000 sq.ft. in-door facilities and 30,000 sq.ft., out-door facilities for all games. The College has two well qualified Physical Education staff. The institution also hosts JNTUK zonal tournaments in the campus.

A serene green campus sets an ambience for peaceful learning. The buildings are kept clean by housekeeping staff members.

All departments are well equipped with the State-of-the-art technology and seminar halls are equipped with LCDs. All the departments are provided with high-end laptops to make the lectures more interesting. Information and Communication Technology is found to be a thrust area for the employability of students. Due care has been taken to offer basic and advanced courses in IT related areas. All such emerging areas have been thoroughly discussed with the peers in the industry and Professors at various institutes while designing the course structure. Faculty members are following ICT-enabled teaching-learning processes.

### **Student Support and Progression**

The various student council & representative committees in LBRCE are:

- Students' professional societies
- Library Committee
- Alumni Association
- Class Review Committee
- NSS
- NCC - Girls
- Cultural Committee
- SAHELI-The Girls Club
- Grievance Cell
- Anti-Ragging Committee

The Communication and Soft Skills Department (CSS) offers training to all modules scattered over 6 semesters. The CSS training is offered right from the 1st year along with T&P Division makes the student competent enough to face any recruitment test.

Students are provided learning resources like NPTEL, Swayam Prabha etc.

All departments are equipped with its own computer centers with the required software for improving the computing skills of the students.

LBRCE provides counselling by faculty counsellors once in every semester. All these efforts have made a great change in enhancing learning ambience of the students.

The T&P Cell has taken a paradigm shift in training the students to cater to the blue chip companies for campus selection. The training programs, workshops, education fairs and value addition programs are all scientifically planned and organized.

Students' entrepreneurial skills are honed through Entrepreneurship Development Cell, which also helps the economically weaker students to 'earn while they learn'. The EDC guides them to apply for external funds and patents.

Students are also motivated to participate, under the guidance of faculty members in a number of co-curricular activities.

Students sent for participating in the Inter Collegiate sports and games have won many trophies in various events under the extra-curricular activities.

## **Governance, Leadership and Management**

**Quality parameters developed for various academic / administrative activities of the institute are listed below.**

1. Assessing the quality parameters and providing required suggestions for the improvement.
2. Arranging training on pedagogy (Training Teachers for Excellence) every semester for all newly admitted faculty.
3. Conducting seminars / workshops, FDPs, Guest Lectures, training / certification programmes on quality related issues.

4. Arranging training on latest technologies for students.
5. Encouraging R&D and Consultancy, empowerment, Establishing advanced / research labs / centres.
6. Evaluation of existing teaching learning systems and related documents
7. Revision of assessment tools incorporating pedagogy approach and outcome evaluation Renew and revision of feedback forms to elicit opinion from different stake holders.
8. Action plan for improving the FPI (Faculty Performance Index)

### **Institutional Values and Best Practices**

**Some best practices followed at our Institution to improve values and qualities are listed below.**

1. The course coordinator system has been continued.
2. Conduct of subject based Seminars and workshops have been continued.
3. Involvement of students in various committees.
4. Practice of conducting Guest lectures, Industrial visits and Industrial training has been enhanced.
5. The functioning of Research groups to promote better quality research has been strengthened.
6. Certification programs as well as technology training is focused by various departments.
7. More Practical orientation is supported through Mini-projects, Technical seminars.
8. Industry-Internship is made mandatory.
9. Program-electives, Open-electives and Mandatory-courses as well as MOOCs are incorporated in R17 regulations.
10. Continuous inputs from all stakeholders are taken to improve the curriculum on regular basis.
11. Professional ethics course has been introduced in the curriculum
12. Additional Training on communication skills and soft skills is further increased.
13. Research aptitude among the students is inculcated through project implementations.
14. An Advisory Committee has been formulated for every department with suitable external members.
15. A regular monitoring of Academic growth is taken care by the College Advisory Board (CAB)
16. Membership in various professional bodies like IEEE, CSI, ISTE, IE, IETE, ISHRE is improved.
17. Institute has signed some MOUs and established collaborations with reputed organizations and institutions
18. Class room facilities with ICT tools are improved
19. Participation of students in Sports, NCC, NSS activities as well as cultural events is considered as mandatory in R17 regulations.



## 2. PROFILE

### 2.1 BASIC INFORMATION

Name and Address of the College	
Name	LAKIREDDY BALI REDDY COLLEGE OF ENGINEERING
Address	L.B. REDDY NAGAR MYLAVARAM KRISHNA DISTRICT INDIA, PIN - 521230
City	MYLAVARAM
State	Andhra Pradesh
Pin	521230
Website	<a href="http://www.lbrce.ac.in">www.lbrce.ac.in</a>

Contacts for Communication					
Designation	Name	Telephone with STD Code	Mobile	Fax	Email
Principal	K APPA RAO	08659-223494	8333905791	08659-222931	principal@lbrce.ac.in
IQAC Coordinator	R Chandrasekhar	08659-222933	9440170525	08659-222934	rscs1948@yahoo.com

Status of the Institution	
Institution Status	Self Financing

Type of Institution	
By Gender	Co-education
By Shift	Regular

Recognized Minority institution	
If it is a recognized minority institution	No

Establishment Details	
Date of Establishment, Prior to the Grant of	26-06-1998

'Autonomy'				
Date of grant of 'Autonomy' to the College by UGC		12-08-2010		
<b>University to which the college is affiliated</b>				
<b>State</b>	<b>University name</b>	<b>Document</b>		
Andhra Pradesh	Jawaharlal Nehru Technological University, Anantpur	<a href="#">View Document</a>		
<b>Details of UGC recognition</b>				
<b>Under Section</b>	<b>Date</b>	<b>View Document</b>		
2f of UGC	22-04-2010	<a href="#">View Document</a>		
12B of UGC	28-09-2011	<a href="#">View Document</a>		
<b>Details of recognition/approval by stationary/regulatory bodies like AICTE,NCTE,MCI,DCI,PCI,RCI etc(other than UGC)</b>				
<b>Statutory Regulatory Authority</b>	<b>Recognition/Approval details Institution/Department programme</b>	<b>Day,Month and year(dd-mm-yyyy)</b>	<b>Validity in months</b>	<b>Remarks</b>
No contents				

<b>Recognitions</b>	
Is the College recognized by UGC as a College with Potential for Excellence(CPE)?	Yes
If yes, date of recognition?	01-08-2016
Is the College recognized for its performance by any other governmental agency?	No

<b>Location and Area of Campus</b>				
<b>Campus Type</b>	<b>Address</b>	<b>Location*</b>	<b>Campus Area in Acres</b>	<b>Built up Area in sq.mts.</b>
Main campus area	L.B. REDDY NAGAR MYLAVARAM KRISHNA DISTRICT INDIA, PIN - 521230	Rural	56.5	39069.64

## 2.2 ACADEMIC INFORMATION

<b>Details of Programmes Offered by the College (Give Data for Current Academic year)</b>						
<b>Programme Level</b>	<b>Name of Programme/Course</b>	<b>Duration in Months</b>	<b>Entry Qualification</b>	<b>Medium of Instruction</b>	<b>Sanctioned Strength</b>	<b>No.of Students Admitted</b>
UG	BTech,Aerospace Engineering	48	Intermediate	English	60	42
UG	BTech,Civil Engineering	48	Intermediate	English	60	58
UG	BTech,Computer Science And Engineering	48	Intermediate	English	120	117
UG	BTech,Electrical And Electronics Engineering	48	Intermediate	English	120	115
UG	BTech,Electronics And Communication Engineering	48	Intermediate	English	180	177
UG	BTech,Electronics And Instrumentation Engineering	48	Intermediate	English	60	49
UG	BTech,Information Technology	48	Intermediate	English	60	60

UG	BTech,Mechanical Engineering	48	Intermediate	English	180	165
PG	Mtech,Computer Science And Engineering	24	B.Tech	English	18	5
PG	Mtech,Electrical And Electronics Engineering	24	B.Tech	English	18	3
PG	Mtech,Electronics And Communication Engineering	24	B.Tech	English	18	10
PG	Mtech,Mechanical Engineering	24	B.Tech	English	18	14
PG	MCA,Master Of Computer Applications	36	UG	English	60	51
PG	MBA,Master Of Business Administration	24	UG	English	120	119

### Position Details of Faculty & Staff in the College

<b>Teaching Faculty</b>												
	<b>Professor</b>				<b>Associate Professor</b>				<b>Assistant Professor</b>			
	Male	Female	Others	Total	Male	Female	Others	Total	Male	Female	Others	Total
Sanctioned by the UGC /University State Government	0				0				0			
Recruited	0	0	0	0	0	0	0	0	0	0	0	0
Yet to Recruit	0				0				0			
Sanctioned by the Management/Society or Other Authorized Bodies	10				5				25			
Recruited	10	0	0	10	4	1	0	5	17	8	0	25
Yet to Recruit	0				0				0			

<b>Non-Teaching Staff</b>				
	<b>Male</b>	<b>Female</b>	<b>Others</b>	<b>Total</b>
Sanctioned by the UGC /University State Government				0
Recruited	0	0	0	0
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				4
Recruited	2	2	0	4
Yet to Recruit				0

<b>Technical Staff</b>				
	<b>Male</b>	<b>Female</b>	<b>Others</b>	<b>Total</b>
Sanctioned by the UGC /University State Government				0
Recruited	0	0	0	0
Yet to Recruit				0
Sanctioned by the Management/Society or Other Authorized Bodies				3
Recruited	3	0	0	3
Yet to Recruit				0

**Qualification Details of the Teaching Staff**

<b>Permanent Teachers</b>										
<b>Highest Qualification</b>	<b>Professor</b>			<b>Associate Professor</b>			<b>Assistant Professor</b>			<b>Total</b>
	<b>Male</b>	<b>Female</b>	<b>Others</b>	<b>Male</b>	<b>Female</b>	<b>Others</b>	<b>Male</b>	<b>Female</b>	<b>Others</b>	
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	40	4	0	9	3	0	4	2	0	62
M.Phil.	0	0	0	1	0	0	2	2	0	5
PG	2	0	0	22	2	0	137	41	0	204

<b>Temporary Teachers</b>										
<b>Highest Qualification</b>	<b>Professor</b>			<b>Associate Professor</b>			<b>Assistant Professor</b>			<b>Total</b>
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	0	0	0	0	0	0	0	0	0	0
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	0	0	0	0

<b>Part Time Teachers</b>										
<b>Highest Qualification</b>	<b>Professor</b>			<b>Associate Professor</b>			<b>Assistant Professor</b>			<b>Total</b>
	Male	Female	Others	Male	Female	Others	Male	Female	Others	
D.sc/D.Litt.	0	0	0	0	0	0	0	0	0	0
Ph.D.	0	0	0	0	0	0	0	0	0	0
M.Phil.	0	0	0	0	0	0	0	0	0	0
PG	0	0	0	0	0	0	0	0	0	0

<b>Details of Visting/Guest Faculties</b>				
<b>Number of Visiting/Guest Faculty engaged with the college?</b>	<b>Male</b>	<b>Female</b>	<b>Others</b>	<b>Total</b>
		5	0	0

**Provide the Following Details of Students Enrolled in the College During the Current Academic Year**

Programme		From the State Where College is Located	From Other States of India	NRI Students	Foreign Students	Total
UG	Male	485	11	0	0	496
	Female	284	7	0	0	291
	Others	0	0	0	0	0
PG	Male	115	2	0	0	117
	Female	80	5	0	0	85
	Others	0	0	0	0	0

**Provide the Following Details of Students admitted to the College During the last four Academic Years**

Programme		Year 1	Year 2	Year 3	Year 4
SC	Male	98	78	64	68
	Female	36	42	48	39
	Others	0	0	0	0
ST	Male	18	20	17	17
	Female	10	10	5	5
	Others	0	0	0	0
OBC	Male	219	173	158	175
	Female	94	89	104	112
	Others	0	0	0	0
General	Male	133	147	155	135
	Female	95	114	120	122
	Others	0	0	0	0
Others	Male	6	7	2	6
	Female	3	3	3	3
	Others	0	0	0	0
Total		712	683	676	682

## 2.3 EVALUATIVE REPORT OF THE DEPARTMENTS



<b>Department Name</b>	<b>Upload Report</b>
Aerospace Engineering	<a href="#">View Document</a>
Civil Engineering	<a href="#">View Document</a>
Computer Science And Engineering	<a href="#">View Document</a>
Electrical And Electronics Engineering	<a href="#">View Document</a>
Electronics And Communication Engineering	<a href="#">View Document</a>
Electronics And Instrumentation Engineering	<a href="#">View Document</a>
Information Technology	<a href="#">View Document</a>
Master Of Business Administration	<a href="#">View Document</a>
Master Of Computer Applications	<a href="#">View Document</a>
Mechanical Engineering	<a href="#">View Document</a>

### 3. Extended Profile

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#### 3.1 Program

Number of programs offered year-wise for last five years

2016-17	2015-16	2014-15	2013-14	2012-13
16	15	15	15	15

Number of all programs offered by the institution during the last five years

Response : 16

How many self-financed Programs does the institution offer

Response : 16

Number of new programmes introduced during the last five years, if any

Response : 02

Number of UG programmes offered by the College, which are not covered under the Autonomous status of UGC

Response : 00

Number of PG programmes offered by the College, which are not covered under Autonomous status of UGC

Response : 00

Whether the College is offering professional programme

Response : Yes

#### 3.2 Students

Number of students year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
3812	3768	3618	3464	3257

**Number of outgoing / final year students year-wise during the last five years**

2016-17	2015-16	2014-15	2013-14	2012-13
967	1030	948	925	817

**Total number of outgoing / final year students****Response : 4687****Number of students appeared in the examination conducted by the Institution, year-wise during the last five years**

2016-17	2015-16	2014-15	2013-14	2012-13
3753	3710	3603	3461	3222

**Number of revaluation applications year-wise during the last 5 years**

2016-17	2015-16	2014-15	2013-14	2012-13
2320	2814	3361	3704	925

**3.3 Teachers****Number of courses in all programs year-wise during the last five years**

2016-17	2015-16	2014-15	2013-14	2012-13
612	537	554	507	515

**Number of courses offered by the institution across all programs during the last five years****Response : 612****Number of full time teachers year-wise during the last five years**

2016-17	2015-16	2014-15	2013-14	2012-13
257	249	230	214	195

**Number of full time teachers worked in the institution during the last 5 years**

**Response : 361**

**Number of teachers recognized as guides during the last five years**

**Response : 19**

**Number of sanctioned posts year-wise during the last five years**

2016-17	2015-16	2014-15	2013-14	2012-13
260	255	246	237	220

**Total number of publications during the last 5 years, which are included in online databases such as SCOPUS, web of science or PubMed/ Indian Citation Index**

**Response : 152**

### **3.4 Institution**

**Number of eligible applications received for admissions to all the programs year-wise during the last five years**

2016-17	2015-16	2014-15	2013-14	2012-13
979	942	937	940	1010

**Number of seats earmarked for reserved category as per GOI/State Govt rule year-wise during the last five years**

2016-17	2015-16	2014-15	2013-14	2012-13
570	525	525	525	525

**Total number of classrooms and seminar halls**

**Response : 74**

**Total number of computers in the campus for academic purpose**

**Response : 1111**

**Total Expenditure excluding salary year-wise during the last five years ( INR in Lakhs)**

2016-17	2015-16	2014-15	2013-14	2012-13
1636.4	1441.14	1368.1	1190.04	1192.71

**Annual lighting power requirement (in KWH)**

**Response : 43275**

**Annual power requirement of the institution (in KWH)**

**Response : 747825**

NAAC

## 4. Quality Indicator Framework(QIF)

### Criterion 1 - Curricular Aspects

#### 1.1 Curriculum Design and Development

**1.1.1 Curricula developed /adopted have relevance to the local/ national / regional/global developmental needs with learning objectives including program outcomes, program specific outcomes and course outcomes of all the program offered by the Institution**

**Response:**

The department and the institute are guided and monitored in the preparation of course curriculum by two bodies, namely Board of Studies and academic council and typically undergoes the following steps.

Step1: A series of all faculty meetings are conducted in correlation to the stated POs , PSOs and COs is carried out.

Step2: The set of courses which require modifications and deletion/addition are prepared and programme curricula adopted at other leading academic institutes in India and abroad are compared.

Step3: The Institute hosts reunion meets of Alumni . During such meets the institute takes the initiative of eliciting their views and suggestions in respect of required changes in curriculum.

Step 4 A meeting of Board of studies is convened. This body comprises the senior faculty of the department and five experts, one JNTUK nominee, one alumni representative ,two from academia and one from the industry are its members. The needs of the industry, government and R&D Laboratories are articulated and recorded. During this review the feedback and suggestions recorded and made by faculty and students is deliberated and a scheme of instruction along with detailed syllabi, credits and other details is prepared and submitted to the academic council for its approval.

Step5: The academic council comprising of all Professors and Heads of departments as its members discusses and evaluates the scheme and syllabi and approves the same with necessary modifications.

The process used to identify extent of compliance of the curriculum for attaining the Program Outcomes and Program Specific Outcomes as mentioned:

1. Alumni give their feedback and suggestion during Annual Meets.
2. Campus placement officer interacts with officials from Industry who visit for recruitment and obtain their feedback on the quality of the competencies of the students and the deficiencies of the curriculum being offered in relation to weakness and strengths of the programme.
3. Outgoing students give feedback at the valedictory functions of respective technical associations.
4. The information from all the above is discussed and deliberated in faculty meetings, BOS meetings and academic council/Governing Body to incorporate required and feasible modifications to improve the quality of competencies of outgoing students.

**1.1.2 Percentage of programs where syllabus revision was carried out during the last five years****Response:** 100

1.1.2.1 How many programs were revised out of total number of programs offered during the last five years

Response: 16

File Description	Document
Minutes of relevant Academic Council/BOS meeting	<a href="#">View Document</a>
Details of program syllabus revision in last 5 years	<a href="#">View Document</a>

**1.1.3 Average percentage of courses having focus on Employability/ Entrepreneurship/ Skill development during the last five years****Response:** 23.29

1.1.3.1 Number of courses having focus on employability/ entrepreneurship/ skill development year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
152	136	133	108	108

File Description	Document
Program/ Curriculum/ Syllabus of the courses	<a href="#">View Document</a>
MoU's with relevant organizations for these courses, if any	<a href="#">View Document</a>
Minutes of the Boards of Studies/ Academic Council meetings with approvals for these courses	<a href="#">View Document</a>
Average percentage of courses having focus on employability/ entrepreneurship	<a href="#">View Document</a>

**1.2 Academic Flexibility****1.2.1 Percentage of new Courses introduced out of the total number of courses across all Programs offered during last five years**

**Response:** 29.25

1.2.1.1 How many new courses are introduced within the last five years

Response: 179

File Description	Document
Minutes of relevant Academic Council/BOS meetings	<a href="#">View Document</a>
Institutional data in prescribed format	<a href="#">View Document</a>

**1.2.2 Percentage of programs in which Choice Based Credit System (CBCS)/Elective course system has been implemented**

**Response:** 100

1.2.2.1 Number of programs in which CBCS/ Elective course system implemented.

Response: 14

File Description	Document
Minutes of relevant Academic Council/BOS meetings	<a href="#">View Document</a>
Institutional data in prescribed format	<a href="#">View Document</a>

### 1.3 Curriculum Enrichment

**1.3.1 Institution integrates cross cutting issues relevant to Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum**

**Response:**

#### **PROFESSIONAL ETHICS AND HUMAN VALUES**

This course is comprised of class room discussions with real life situations. It also focuses on ethical concerns common to human service situations. It is in response to a long- felt and urgent need to integrate value education with decision making skills in their professions.

The issues in professional ethics are analysed in the context of right understanding with the main focus on the development of ethical competence in the individuals. The course concludes by proposing several salient steps to undertake the journey towards holistic and value-based living.

#### **ENVIRONMENT AND SUSTAINABILITY**

This course introduces the academic approach of sustainability by covering the general understanding of



what constitutes to the rates of renewable resource harvest, pollution creation, and non-renewable resource depletion and where these processes can be continued indefinitely, i.e., without sacrificing the needs of future generations. It is a course to better equipped students for making informed decisions and taking economically feasible actions that are in the interests of protecting the natural world.

File Description	Document
Upload the list and description of the courses which address the Gender, Environment and Sustainability, Human Values and Professional Ethics into the Curriculum	<a href="#">View Document</a>

### 1.3.2 Number of value-added courses imparting transferable and life skills offered during the last five years

**Response:** 47

1.3.2.1 How many new value-added courses are added within the last 5 years

Response: 47

File Description	Document
List of value added courses	<a href="#">View Document</a>
Brochure or any other document relating to value added courses	<a href="#">View Document</a>

### 1.3.3 Average percentage of students enrolled in the courses under 1.3.2 above

**Response:** 39.38

1.3.3.1 Number of students enrolled in value-added courses imparting transferable and life skills offered year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
1621	2254	1361	1264	666

File Description	Document
List of students enrolled	<a href="#">View Document</a>

### 1.3.4 Percentage of students undertaking field projects / internships

<b>Response:</b> 26.59	
1.3.4.1 Number of students undertaking field projects or internships	
Response: 1022	
<b>File Description</b>	<b>Document</b>
List of programs and number of students undertaking field projects / internships	<a href="#">View Document</a>

## 1.4 Feedback System

<p><b>1.4.1 Structured feedback received from 1) Students, 2) Teachers, 3) Employers, 4) Alumni 5) Parents for design and review of syllabus Semester wise /year-wise</b></p> <p><b>A. Any 4 of above</b></p> <p><b>B. Any 3 of above</b></p> <p><b>C. Any 2 of above</b></p> <p><b>D. Any 1 of above</b></p> <p><b>Response:</b> A. Any 4 of above</p>	
<b>File Description</b>	<b>Document</b>
URL for stakeholder feedback report	<a href="#">View Document</a>

<p><b>1.4.2 Feedback processes of the institution may be classified as follows:</b></p> <p><b>A. Feedback collected, analysed and action taken and feedback available on website</b></p> <p><b>B. Feedback collected, analysed and action has been taken</b></p> <p><b>C. Feedback collected and analysed</b></p> <p><b>D. Feedback collected</b></p> <p><b>Response:</b> B. Feedback collected, analysed and action has been taken</p>
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## Criterion 2 - Teaching-learning and Evaluation

### 2.1 Student Enrollment and Profile

#### 2.1.1 Average percentage of students from other States and Countries during the last five years

**Response:** 0.18

##### 2.1.1.1 Number of students from other states and countries year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
23	12	0	0	0

File Description	Document
List of students (other states and countries)	<a href="#">View Document</a>
Institutional data in prescribed format	<a href="#">View Document</a>

#### 2.1.2 Demand Ratio(Average of last five years)

**Response:** 0.9

##### 2.1.2.1 Number of seats available year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
1140	1050	1050	1050	1050

File Description	Document
Demand Ratio (Average of Last five years)	<a href="#">View Document</a>

#### 2.1.3 Average percentage of seats filled against seats reserved for various categories as per applicable reservation policy during the last five years

**Response:** 82.05

##### 2.1.3.1 Number of actual students admitted from the reserved categories year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
484	422	401	425	460

File Description	Document
Average percentage of seats filled against seats reserved	<a href="#">View Document</a>
Any additional information	<a href="#">View Document</a>

## 2.2 Catering to Student Diversity

### 2.2.1 The institution assesses the learning levels of the students, after admission and organises special programs for advanced learners and slow learners

#### Response:

In every course, after the conduct of first mid examination the students are classified according to their learning capabilities. Accordingly, the slow learners are given additional learning assignments and corresponding arrangements are made in terms of extra classes, remedial classes.

Even before the first mid examinations for first year students who seek late admission special arrangements are made to enable them as per the academic requirements.

The department conducts the bridge courses for lateral entry students and first year late admitted students.

Remedial Classes are regularly conducted by the subject experts beyond working hours.

#### Mentoring system:

For effective mentoring and for the welfare of the students, 20 to 25 students are attached to a faculty mentor. Mentors classified the allocated students into four categories according to their academic capabilities in terms of prerequisite ability, perception level, focus and comprehension. According to each category, the suggestions are given by the mentor to the student to improve his/her academic performance. The college endeavours to look after the total personality development of students through CSS classes, Co-Curricular and extra-curricular activities and counselling.

#### Special arrangements are made for advanced learners in the following:

Soft skills training programs and career counselling programs are arranged for advanced learners.

The faculty offer guidance to the prospective professionals in addition to classroom teaching.

The Training and Placement cell has been active not only in arranging campus recruitment drives, but also offering job awareness and training to the students

Special coaching classes are offered for GATE and other Competitive exams for advanced learners.

Advanced learners are encourage to participate in value-added certification courses.

File Description	Document
Any additional information	<a href="#">View Document</a>

### 2.2.2 Student - Full time teacher ratio

**Response:** 15.07

File Description	Document
Institutional data in prescribed format	<a href="#">View Document</a>
Any additional information	<a href="#">View Document</a>

### 2.2.3 Percentage of differently abled students (Divyangjan) on rolls

**Response:** 0.1

#### 2.2.3.1 Number of differently abled students on rolls

Response: 4

File Description	Document
List of students(differently abled)	<a href="#">View Document</a>
Institutional data in prescribed format	<a href="#">View Document</a>

## 2.3 Teaching- Learning Process

### 2.3.1 Student centric methods, such as experiential learning, participative learning and problem solving methodologies are used for enhancing learning experiences

**Response:**

In addition to traditional teaching-learning methods, the institute is highly interested in providing innovative methods for enriching the learning experience. The methodologies include illustration and special lectures, field study, case-studies, project-based-methods, experimental methods and group-learning methods. The facilities arranged by the institute are listed below.

**Lecture method:**

This conventional method is commonly adopted by all the teachers. This method facilitates the teacher to

interpret, explain and revise the content of a text only for better understanding of the subject by the learners. At the end of instruction of each unit, the students are given with specific assignments which enriches their learning.

#### **Interactive method:**

Interactive method of learning includes group discussion, role-play, subject quiz, news analysis, educational games and discussion with question/answers. In all the courses, tutorial classes are conducted where problem solving skills are imparted.

#### **Information and Communication Technology (ICT) Enabled Teaching:**

- ICT enabled teaching methods have been made available in the institute. With Wi-Fi facilities for these class rooms and software support for arranging virtual class rooms ICT enabled class room facility is made available by the Institute to a limited extent.
- The Teaching-Learning Process is supported with Regular Practical Sessions, access of Digital Library, Online Courses (MOOCS, NPTEL etc.), online journals, Conducting Online tests, Use of LCD projectors for seminars and workshops, productive use of educational videos, Accessibility of non-print material for students of Computer studies. Communication skills training facility make the students to acquire proficiency in listening, speaking, reading and writing.

#### **Case Study Analysis and Discussion:**

The case study method is a participatory, discussion based way of learning where students gain skills in critical thinking, communication, and group dynamics. Appropriate integration of case studies in chosen subjects is arranged by all departments.

#### **Group Learning Method:**

Departments are extensively using Group Learning Method with group size of 5to 10 in specific subjects. All Engineering Students are trained through Group Discussions, Management Games and Group Projects/Assignments to promote group learning activity.

#### **Project-based Learning:**

Project work is mandatory for all the courses offered at the institute. The period of implementation spans from one to two semesters. The effective phases of survey, case study, implementation, testing and report writing ensure the required project-based learning among the students. Some subjects are augmented with learning through implementation of mini-projects.

#### **Experiential Learning:**

The faculty members foster learning environment by engaging in rich experiential content of teaching through experimentation, demonstration, visual aids, periodical industrial visits, organizing exhibitions as well as presenting papers.

#### **Student Seminar:**

The Student seminars are mandatory in all programs offered at the institute. Usually students present seminar on contemporary topics as well as state-of-the-art technologies.

### Summer Internship Project:

Large percentage of students of UG and PG Courses attend an Internship program for 2 to 4 weeks in the industry during the summer break between pre-final and final years of their programme. Internship is made mandatory in R14 and R17 Regulations of B.Tech Programme.

### 2.3.2 Percentage of teachers using ICT for effective teaching with Learning Management Systems (LMS), E-learning resources etc.

**Response:** 72.37

#### 2.3.2.1 Number of teachers using ICT

Response: 186

File Description	Document
List of teachers (using ICT for teaching)	<a href="#">View Document</a>
Any additional information	<a href="#">View Document</a>
Provide link for webpage describing the " LMS/ Academic management system"	<a href="#">View Document</a>

### 2.3.3 Ratio of students to mentor for academic and stress related issues

**Response:** 14.83

#### 2.3.3.1 Number of mentors

Response: 257

File Description	Document
Year wise list of number of students, full time teachers and mentor/mentee ratio	<a href="#">View Document</a>

### 2.3.4 Preparation and adherence to Academic Calendar and Teaching plans by the institution

**Response:**

The Institute follows a well-planned academic calendar. It is a coordinated effort by College Advisory Board(CAB) members. The academic calendar provides adequate balance between academic and non-academic activities, teaching and examination schedule.

Every faculty member prepares a 'Lesson Plan' for every theory subject and it is placed in the website at the beginning of the semester and is duly approved by the Head of the department. The number of hours in the teaching plan is framed depending on the credits of the course and made available to the students. According to the lesson plan and implementation details are placed in the course file of the subject. This guides the faculty members to stick to the academic schedules as much as possible. Effective monitoring of the lesson plan schedules is taken care by the Head of the Department as well as academic auditors.

Moreover, at the beginning of academic year, every programme coordinator prepares the calendar of academic events like Workshops, Conferences, visiting faculty lectures, Industrial visits etc., which is submitted for academic audit.

## 2.4 Teacher Profile and Quality

### 2.4.1 Average percentage of full time teachers against sanctioned posts during the last five years

**Response:** 92.85

File Description	Document
Year wise full time teachers and sanctioned posts for 5 years	<a href="#">View Document</a>
List of the faculty members authenticated by the Head of HEI	<a href="#">View Document</a>

### 2.4.2 Average percentage of full time teachers with Ph.D. during the last five years

**Response:** 17.04

#### 2.4.2.1 Number of full time teachers with Ph.D. year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
45	38	42	35	33

File Description	Document
List of number of full time teachers with PhD and number of full time teachers for 5 years	<a href="#">View Document</a>
Any additional information	<a href="#">View Document</a>

### 2.4.3 Teaching experience per full time teacher in number of years



**Response:** 9.44**2.4.3.1 Total experience of full-time teachers****Response:** 2425

<b>File Description</b>	<b>Document</b>
List of Teachers including their PAN, designation,dept and experience details	<a href="#">View Document</a>

**2.4.4 Percentage of full time teachers who received awards, recognition, fellowships at State, National, International level from Government, recognised bodies during the last five years****Response:** 2.62**2.4.4.1 Number of full time teachers receiving awards from state /national /international level from Government recognised bodies year-wise during the last five years**

2016-17	2015-16	2014-15	2013-14	2012-13
2	0	1	1	2

<b>File Description</b>	<b>Document</b>
Institutional data in prescribed format	<a href="#">View Document</a>
e-copies of award letters (scanned or soft copy)	<a href="#">View Document</a>
Any additional information	<a href="#">View Document</a>

**2.4.5 Average percentage of full time teachers from other States against sanctioned posts during the last five years****Response:** 2.8**2.4.5.1 Number of full time teachers from other states year-wise during the last five years**

2016-17	2015-16	2014-15	2013-14	2012-13
10	10	10	04	01

File Description	Document
List of full time teachers from other state and state from which qualifying degree was obtained	<a href="#">View Document</a>

## 2.5 Evaluation Process and Reforms

### 2.5.1 Average number of days from the date of last semester-end/ year- end examination till the declaration of results during the last five years

**Response:** 27.8

2.5.1.1 Number of days from the date of last semester-end/ year- end examination till the declaration of results year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
19	17	30	33	40

File Description	Document
List of programs and date of last semester and date of declaration of result	<a href="#">View Document</a>

### 2.5.2 Average percentage of student complaints/grievances about evaluation against total number appeared in the examinations during the last five years

**Response:** 0.34

2.5.2.1 Number of complaints/grievances about evaluation year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
10	12	12	10	15

File Description	Document
Number of complaints and total number of students appeared year wise	<a href="#">View Document</a>

### 2.5.3 Average percentage of applications for revaluation leading to change in marks during the last five years

**Response:** 28.54

2.5.3.1 Number of applications for revaluation leading to change in marks year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
503	684	900	900	422

**File Description****Document**

Year wise number of applications, students and revaluation cases

[View Document](#)**2.5.4 Positive impact of reforms on the examination procedures and processes including IT integration and continuous internal assessment on the examination management system****Response:****Positive impact of reforms on the examination procedures and processes:**

Reforms	Positive Impacts
Four Sets of question papers are prepared for each subject in SEE by Internal & External faculty	<ul style="list-style-type: none"> <li>Confidentiality in the question paper selection.</li> <li>Chances of question paper leakage are prevented.</li> </ul>
Preparation of detailed scheme of evaluation by internal subject experts	<ul style="list-style-type: none"> <li>Uniformity in the evaluation among the evaluators</li> <li>Fair judgement for the students</li> </ul>
Initiation of Flying Squad team consisting of senior faculty members	<ul style="list-style-type: none"> <li>Strict vigilance for smooth conduct of examinations.</li> <li>Eliminates possibilities of use of unfair means by the candidates</li> </ul>
Inclusion of CCTV cameras	<ul style="list-style-type: none"> <li>Identifies the entry of un-authorized persons into the examination section.</li> <li>Continuous monitoring of activities of examination section and spot evaluation process.</li> </ul>
Implementation of RFID locking system	<ul style="list-style-type: none"> <li>Prevents the entry of un-authorized persons into the examination section.</li> <li>Improved security to the examination management system.</li> </ul>
Establishment of Spot evaluation center	<ul style="list-style-type: none"> <li>Ensured uniform evaluation.</li> <li>Declaration of results with in the stipulated time.</li> <li>Confidentiality and custody of answer scripts are ensured.</li> </ul>
Chief examiner in the evaluation	<ul style="list-style-type: none"> <li>Ensures the uniform evaluation among the valuers.</li> <li>Fair judgement for the students</li> </ul>
Inclusion of security features in grade	<ul style="list-style-type: none"> <li>Chances of manipulations are nullified.</li> </ul>

cards		
Inclusion of OMR booklet with barcode	<ul style="list-style-type: none"> <li>• Data processing has become more accurate.</li> <li>• Absolutely no human error</li> <li>• Reliable &amp; no scope for manipulation.</li> </ul>	
Complete Automation of Examination Management System	<ul style="list-style-type: none"> <li>• Considerable improvement in the speed, reliability, efficiency, security, transparency, confidentiality and accuracy in the entire process of the examination process.</li> <li>• Delayed declaration of results and the tedious efforts in manual system are avoided</li> <li>• The system is more transparent and reliable.</li> <li>• Parents could access result status of wards</li> </ul>	
Challenge evaluation	<ul style="list-style-type: none"> <li>• The answer scripts of the students are evaluated by 3 evaluators in the presence of student enables more transparency &amp; accountability of the evaluation process.</li> </ul>	

#### **Examination Management System and Examination section have**

- Dedicated server and RFID locking with standby.
- Protected server with firewall security
- Authorised access to the controller of examination through security key only
- CCTV surveillance
- Backup data storage

#### **Continuous internal assessment on the examination management system:**

An internal examination executive committee (EEC) headed by Principal is constituted to monitor the activities of examination section continuously for effective and smooth functioning.

#### **2.5.5 Status of automation of Examination division along with approved Examination Manual** **A. 100% automation of entire division & implementation of Examination Management System (EMS)**

#### **B. Only student registration, Hall ticket issue & Result Processing**

#### **C. Only student registration and result processing**

#### **D. Only result processing**

**Response:** A. 100% automation of entire division & implementation of Examination Management System (EMS)

File Description	Document
Current manual of examination automation system and Annual reports of examination including the present status of automation	<a href="#">View Document</a>
Current Manual of examination automation system	<a href="#">View Document</a>

## 2.6 Student Performance and Learning Outcomes

### 2.6.1 Program outcomes, program specific outcomes and course outcomes for all programs offered by the Institution are stated and displayed on website and communicated to teachers and students

#### Response:

Availability of COs embedded in the syllabi. The COs are published in Academic regulations and Curriculum book, and departmental website. They are made reachable to all the stakeholders of the program through education, faculty workshops, student awareness workshops, student induction programs and faculty meetings. Explanation of Course Articulation Matrix table to be ascertained. The program outcomes and program specific outcomes are achieved through a curriculum that offers a number of courses. Each course has defined course outcomes that are linked to the program outcomes and a set of performance criteria that are used to provide quantitative measurement of how well course outcomes are achieved. The course outcomes are thus directly and quantitatively assessed, and are tied to the program outcomes and program specific outcomes. Therefore if the course outcomes are attained, that provides direct quantitative evidence that program outcomes are attained.

The course outcomes of each course are mapped to the Program Outcomes with a level of emphasis being strongly correlated (3), moderately correlated (2) and Lightly correlated (1).

File Description	Document
COs for all courses (exemplars from Glossary)	<a href="#">View Document</a>
Any additional information	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

### 2.6.2 Attainment of program outcomes, program specific outcomes and course outcomes are evaluated by the institution

#### Response:

The process of course outcome assessment is based on mid examination, semester end examination, assignment and quiz. Each question in mid/semester end/assignment/quiz are tagged to the corresponding CO and the overall attainment of that CO is based on average mark is set as target for final attainment. The following processes & tools are used for the attainment of course outcomes.

**i).Mid Examinations:**This type of performance assessment is carried out during the examination sessions which are held twice a semester. Each and every exam is focused in attaining the course outcomes.

**ii).Semester End Examination:**Semester End examination is a metric for assessing whether all the COs are attained or not. Examination is more focused on attainment of course outcomes and program outcomes using a descriptive exam.

**iii).Assignment:** Each and every student is assigned with course related tasks during every course work and assessment will be done based on their performance. Grades/Marks are assigned depending on their innovation in solving/deriving the problems.

**iv).Rubrics** are formulated for the assessment of Laboratory, Mini Project, Major Project, Seminar and Internship courses Record the attainment of Course Outcomes of all courses with respect to set attainment levels.

The expected target level of course outcomes is set in the range of 50%-70% based on the cognitive level of CO by course instructor at the beginning of the semester. The performance of the students in the examinations during the semester in each course is used to compute the level of direct attainment of the COs The questions of each examination are tagged to the course outcomes by the course instructor.

The attainment of each CO is computed by setting the class average mark as the target. The COs of each course are mapped to POs & PSOs with weights of 1( Weak), 2 (medium) and 3 (strong)

**Attainment of Program Outcomes and Program Specific Outcomes:** A. List of assessment tools & processes:

**i) Direct assessment:** The performance of the students in the examinations during the semester in each course is used to compute the level of attainment of the POs and PSOs through the mapping of questions to COs and COs to POs and PSOs. CO-PO & PSO mapping for all the courses in the program is prepared by the program coordinator.

**ii) Indirect assessment:** The feedback is collected through an on-line survey from the students at the end of program(Program Exit Survey).In Addition to this, student portfolios (Co-curricular, Extra Curricular, Placement, Higher studies, etc.)for the final attainment of POs & PSOs. B. The quality/relevance of assessment tools/processes used: The attainment of the PO & PSO is computed as a weighted average of attainment of the COs that are mapped to the given PO&PSO. The overall PO & PSO attainments are calculated by considering 70% of direct attainment and 30% of indirect attainment through surveys.

Out of 30% of indirect attainment, 10% weightage is given for program exit survey, 10% for employer survey and 10% for student portfolio.

### 2.6.3 Average pass percentage of Students

**Response:** 92.35

2.6.3.1 Total number of final year students who passed the examination conducted by Institution.

Response: 893	
2.6.3.2 Total number of final year students who appeared for the examination conducted by the institution	
Response: 967	
<b>File Description</b>	<b>Document</b>
List of programs and number of students passed and appeared in the final year examination	<a href="#">View Document</a>

## 2.7 Student Satisfaction Survey

2.7.1 Online student satisfaction survey regarding teaching learning process	
Response: 3.45	
<b>File Description</b>	<b>Document</b>
Database of all currently enrolled students	<a href="#">View Document</a>

## Criterion 3 - Research, Innovations and Extension

### 3.1 Promotion of Research and Facilities

**3.1.1 The institution has a well defined policy for promotion of research and the same is uploaded on the institutional website**

**Response:** Yes

File Description	Document
Minutes of the Governing Council/ Syndicate/Board of Management related to research promotion policy adoption	<a href="#">View Document</a>
URL of Policy document on promotion of research uploaded on website	<a href="#">View Document</a>

**3.1.2 The institution provides seed money to its teachers for research (average per year)**

**Response:** 0

3.1.2.1 The amount of seed money provided by institution to its faculty year-wise during the last five years(INR in Lakhs)

2016-17	2015-16	2014-15	2013-14	2012-13
0	0	0	0	0

File Description	Document
List of teachers receiving grant and details of grant received	<a href="#">View Document</a>
Budget and expenditure statements signed by the Finance Officer indicating seed money provided and utilized	<a href="#">View Document</a>

**3.1.3 Number of teachers awarded international fellowship for advanced studies/ research during the last five years**

**Response:** 0

3.1.3.1 The number of teachers awarded international fellowship for advanced studies / research year-wise during the last five years



2016-17	2015-16	2014-15	2013-14	2012-13
0	0	0	0	0

File Description	Document
List of teachers and their international fellowship details	<a href="#">View Document</a>

### 3.1.4 Institution has the following facilities

1. Central Instrumentation Centre
2. Animal House/Green House / Museum
3. Central Fabrication facility
4. Media laboratory/Business Lab/Studios
5. Research / Statistical Databases

A. Any four facilities exist

B. Three of the facilities exist

C. Two of the facilities exist

D. One of the facilities exist

**Response:** C. Two of the facilities exist

File Description	Document
Link to videos and photographs geotagged	<a href="#">View Document</a>

## 3.2 Resource Mobilization for Research

**3.2.1 Grants for research projects sponsored by the government/non-government sources such as industry, corporate houses, international bodies, endowments, Chairs in the institution during the last five years(INR in Lakhs)**

**Response:** 173.68

3.2.1.1 Total Grants for research projects sponsored by the government/non-government sources such as industry, corporate houses, international bodies, endowments, Chairs in the institution year-wise during the last five years(INR in Lakhs)

2016-17	2015-16	2014-15	2013-14	2012-13
7.55	21.696	28.35	0	116.083

File Description	Document
List of project and grant details	<a href="#">View Document</a>
e-copies of the grant award letters for research projects sponsored by non-government	<a href="#">View Document</a>

### 3.2.2 Number of research centres recognised by University and National/ International Bodies

**Response:** 4

#### 3.2.2.1 Number of research centres recognised by University and National/ International Bodies

Response: 4

File Description	Document
Names of research centres	<a href="#">View Document</a>

### 3.2.3 Percentage of teachers recognised as research guides

**Response:** 5.88

#### 3.2.3.1 Number of teachers recognised as research guides

Response: 15

File Description	Document
Details of teachers recognized as research guide	<a href="#">View Document</a>

### 3.2.4 Number of research projects per teacher funded, by government and non-government agencies, during the last five year

**Response:** 0.18

#### 3.2.4.1 Number of research projects funded by government and non-government agencies during the last five years

Response: 13

File Description	Document
Supporting document from Funding Agency	<a href="#">View Document</a>
List of research projects and funding details	<a href="#">View Document</a>

### 3.3 Innovation Ecosystem

#### 3.3.1 Institution has created an eco system for innovations including Incubation centre and other initiatives for creation and transfer of knowledge

##### Response:

##### Center for Innovation, Incubation and Enterprenureship:

Innovation is production or adoption, assimilation, and exploitation of a value-added novelty in economic and social spheres; renewal and enlargement of products, services, and markets; development of new methods of production; and establishment of new management systems. It is both a process and an outcome.

Incubation is one of the four proposed stages of [creativity](#), which are preparation, incubation, illumination, and verification, it is a process of [unconscious](#) recombination of [thought](#) elements that were stimulated through [conscious](#) work at one point in time, resulting in novel [ideas](#) at some later point in time. ?

?

In our considered view, innovation and incubation hold the key to sustenance of all entrepreneurial efforts- be it within educational systems or elsewhere. We fervently wish to link innovation and incubation to bring about positive changes in efficiency, productivity, quality, competitiveness as our students, faculty and other stakeholders seek to transform ideas into products or services.

##### Innovation & Incubation committee :

**Conveners:** Dr. A. Narendra Babu, Professor & Dr. T. Rajasekhar, Professor.

Members :

S.No	Name of the Faculty	Dept
1	Dr.S.R.Dinesh Kumar	ASE
2	Ch.Ch.Srinivas	Civil
3	Dr.P.Ashok Kumar	CSE
4	K.Srinivasulu	ECE
5	K.Sudeer Kumar	EEE
6	B.Rajasekhar Reddy	EIE
7	Dr.S.Naganjaneyulu	IT
8	Dr.K.Murahari	MECH
9	P. Siva Reddy	MBA
10	M.Hemalatha	MCA

##### Roles & Responsibilities:

The role of our innovation team is to conceive, champion, and carefully develop a new approach that is yet to be tried elsewhere. The team's composition and dynamics reflect our focus on bring on board professionals with diverse skill set and academic orientation.

Every individual is expected to exhibit balance in team-role preferences. Each member is expected to explore inter-disciplinary work groups and scenarios.

It is expected that a good mix of individuals with varied preferences will do much to ensure a well-composed team that is able to perform at a high level through all the different stages of process. Hence, we look forward to maintain best standards of professional communication and team work to achieve success in the innovation process.

### **Ideation:**

Ideation is regarded as the creative process that generates, develops and communicates novel ideas, which is understood to be a basic element of thought, visual, concrete, or abstract. Through this platform, we seek to empower all stakeholders to discover ideas in a way similar to the discovery of the real world, from personal experiences. Through the process of ideation, we seek seamless exchange of ideas, and exciting as well as more productive collaboration among students, faculty and prospective entrepreneurs and connect them to real time business mentors and facilitators.

List of Innovation Projects identified: .

Workshops :

The Innovation and Ideation fest which is already planned, will be organized by our college in the month of December,2017.

File Description	Document
link for additional information	<a href="#">View Document</a>

### **3.3.2 Number of workshops/seminars conducted on Intellectual Property Rights (IPR) and Industry - Academia Innovative practices during the last five years**

**Response: 22**

3.3.2.1 Total number of workshops/seminars conducted on Intellectual Property Rights (IPR) and Industry-Academia Innovative practices year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
08	09	03	01	01

File Description	Document
List of workshops/seminars during the last 5 years	<a href="#">View Document</a>

### 3.3.3 Number of awards for innovation won by institution/ teachers/ research scholars/students during the last five years

**Response: 6**

3.3.3.1 Total number of awards for innovation won by institution/teachers/research scholars/students year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
05	0	0	0	01

File Description	Document
List of innovation and award details	<a href="#">View Document</a>
e- copies of award letters	<a href="#">View Document</a>

### 3.3.4 Number of start-ups incubated on campus during the last five years

**Response: 0**

3.3.4.1 Total number of start-ups incubated on campus year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
00	00	00	00	00

File Description	Document
List of startups details like name of startup, nature, year of commencement etc	<a href="#">View Document</a>

## 3.4 Research Publications and Awards

**3.4.1 The institution has a stated Code of Ethics to check malpractices and plagiarism in Research**

**Response: Yes**

File Description	Document
Institutional data in prescribed format	<a href="#">View Document</a>

### 3.4.2 The institution provides incentives to teachers who receive state, national and international recognition/awards

**Response:** No

File Description	Document
List of Awardees and Award details	<a href="#">View Document</a>

### 3.4.3 Number of Patents published/awarded during the last five years

**Response:** 2

#### 3.4.3.1 Total number of Patents published/awarded year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
01	00	00	00	01

File Description	Document
List of patents and year it was awarded	<a href="#">View Document</a>
Any additional information	<a href="#">View Document</a>

### 3.4.4 Number of Ph.D.s awarded per teacher during the last five years

**Response:** 0.42

#### 3.4.4.1 How many Ph.Ds are awarded within last 5 years

**Response:** 08

File Description	Document
List of PhD scholars and their details like name of the guide , title of thesis, year of award etc	<a href="#">View Document</a>
URL to the research page on HEI web site	<a href="#">View Document</a>

### 3.4.5 Number of research papers per teacher in the Journals notified on UGC website during the last five years

**Response: 0.65**

3.4.5.1 Number of research papers in the Journals notified on UGC website during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
52	26	27	15	29

**File Description**

List of research papers by title, author, department, name and year of publication

**Document**[View Document](#)**3.4.6 Number of books and chapters in edited volumes / books published, and papers in national/international conference-proceedings per teacher during the last five years****Response: 0.25**

3.4.6.1 Total number of books and chapters in edited volumes / books published, and papers in national/international conference-proceedings year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
16	11	08	08	14

**File Description**

List books and chapters in edited volumes / books published

**Document**[View Document](#)**3.4.7 Bibliometrics of the publications during the last five years based on average citation index in Scopus/ Web of Science or PubMed/ Indian Citation Index****Response: 2.46**

3.4.7.1 Total number of citations received by publications in the last 5 years, which are included in online databases such as SCOPUS, web of science or PubMed/ Indian Citation Index

Response: 149

**File Description**

Bibliometrics of the publications during the last five years

**Document**[View Document](#)

**3.4.8 Bibliometrics of the publications during the last five years based on Scopus/ Web of Science - h-index of the Institution****Response:** 471

3.4.8.1 Number of citations received by individual research publications in the last 5 years

Response: 72

3.4.8.2 Number of publications receiving proportionately maximum number of citation in the last five years

Response: 20

**File Description****Document**Bibliometrics of publications based on Scopus/  
Web of Science - h-index of the Institution[View Document](#)**3.5 Consultancy****3.5.1 Institution has a policy on consultancy including revenue sharing between the institution and the individual****Response:** Yes**File Description****Document**Minutes of the Governing Council/ Syndicate/Board  
of Management related to Consultancy policy[View Document](#)

URL of the consultancy policy document

[View Document](#)**3.5.2 Revenue generated from consultancy during the last five years****Response:** 2.12

3.5.2.1 Total amount generated from consultancy year-wise during the last five years (INR in Lakhs)

2016-17	2015-16	2014-15	2013-14	2012-13
0.91	1.18	0.029	0.0	0

**File Description****Document**

List of consultants and revenue generated by them

[View Document](#)



**3.5.3 Revenue generated from corporate training by the institution during the last five years****Response:** 0

3.5.3.1 Total amount generated from corporate training by the institution year-wise during the last five years (INR in Lakhs)

2016-17	2015-16	2014-15	2013-14	2012-13
00	00	00	00	00

**File Description****Document**

List of teacher consultants and revenue generated by them

[View Document](#)**3.6 Extension Activities****3.6.1 Extension activities in the neighbourhood community in terms of impact and sensitising students to social issues and holistic development during the last five years****Response:**

True to the lofty ideals of the National Service Scheme movement, our college seeks to actively involve undergraduate students in voluntary social service activities for the socio-economic development of the area surrounding our institution as well as the nation at large. Through our innovatively designed NSS program, we provide opportunities to students to empathetically understand and appreciate the problems of the communities, awaken social consciousness and inculcate in them a sense of dignity of labour and fellow feeling. Today, we are strongly connected to our immediate society as well as the nation through an emotional and moral bonding by virtue of the passion and dedication with which our students carry out the various social service initiatives.

Our activities embody the motto of NSS, both in letter and spirit i.e. "Not Me, But You" that captures the essence of democratic living and upholds the need for selfless services and appreciation of another man's point of view and also show consideration for fellow human beings. Our NSS unit seeks to underline that the welfare of an individual is ultimately dependent on the welfare of the society as a whole that is demonstrated through our regular NSS activities.

Our NSS unit plans and implements programmes to inculcate thoughts in the minds of students oriented towards achieving social welfare and provide selfless service to the society without any prejudice and expectation for reward.

Our regular social service activities include cleanliness drives, environmental protection, healthcare support and educational support among others. In order to be a part of the organic development of a village in all its aspects, our college NSS unit started adopting villages from the surrounding places from 2009-10

onwards. As part of such an initiative, our NSS unit is interacting with villagers and rendering services like planting trees, organizing medical camps, distributing free medicines, awareness programs on cleanliness, launching Swatch Bharat programs, distributing optical ware to old aged people, distributing books among school children, distributing exam kits among matriculate students, distributing dental kits among school children, computer awareness programs for school children and faculty, health awareness programs, awareness program on digital banking, literacy campaigns, conducting surveys among beneficiaries of various schemes such as “availability of Toilets” and various other welfare schemes of the central and state governments.

The NSS unit makes efforts to involve the village community in these activities and constantly strives to sensitise students into developing a social concern and orientation. NSS Unit interacts with all stakeholders before, during and after conducting such activities and prepares activity reports by taking into consideration the pertinent issues and needs of the people. Such issues help us in formulating the right response to the proposed activities. NSS volunteers regularly visit villages and gather data and views before attempting to solve them. The NSS Programme officer regularly guides the students by organising meetings and mentoring them. The Program officer is assisted by faculty representatives from various departments. So far, our NSS initiatives have been appreciated by the villagers as well as other stakeholders.

File Description	Document
link for additional information	<a href="#">View Document</a>

### 3.6.2 Number of awards and recognition received for extension activities from Government /recognised bodies during the last five years

**Response: 4**

3.6.2.1 Total number of awards and recognition received for extension activities from Government /recognised bodies year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
00	02	01	00	01

File Description	Document
Number of awards for extension activities in last 5 years	<a href="#">View Document</a>

### 3.6.3 Number of extension and outreach Programs conducted in collaboration with Industry, Community and Non- Government Organizations through NSS/ NCC/ Red Cross/ YRC etc., during the last five years

**Response: 135**

3.6.3.1 Number of extension and outreach Programs conducted in collaboration with Industry, Community and Non- Government Organizations through NSS/ NCC/ Red Cross/ YRC etc., year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
39	32	25	14	25

File Description	Document
Reports of the event organized	<a href="#">View Document</a>
Number of extension and outreach programs conducted with industry,community etc for the last five years	<a href="#">View Document</a>

**3.6.4 Average percentage of students participating in extension activities with Government Organisations, Non-Government Organisations and programs such as Swachh Bharat, Aids Awareness, Gender Issue, etc. during the last five years**

**Response: 9.78**

3.6.4.1 Total number of students participating in extension activities with Government Organisations, Non-Government Organisations and programs such as Swachh Bharat, Aids Awareness, Gender Issue, etc. year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
626	421	220	400	120

File Description	Document
Report of the event	<a href="#">View Document</a>
Average percentage of students participating in extension activities with Govt. or NGO etc.	<a href="#">View Document</a>

### 3.7 Collaboration

**3.7.1 Number of Collaborative activities for research, faculty exchange, student exchange per year**

**Response: 2**

3.7.1.1 Total number of Collaborative activities for research, faculty exchange, student exchange year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
02	01	02	01	04

File Description	Document
Number of Collaborative activities for research, faculty etc.	<a href="#">View Document</a>

**3.7.2 Number of linkages with institutions/industries for internship, on-the-job training, project work, sharing of research facilities etc. during the last five years**

**Response: 26**

3.7.2.1 Number of linkages for faculty exchange, student exchange, internship, field trip, on-the-job training, research, etc year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
12	8	2	2	2

File Description	Document
Details of linkages with institutions/industries for internship	<a href="#">View Document</a>

**3.7.3 Number of functional MoUs with institutions of National/ International importance, Other Institutions, Industries, Corporate houses etc., during the last five years (only functional MoUs with ongoing activities to be considered)**

**Response: 17**

3.7.3.1 Number of functional MoUs with institutions of national, international importance, other universities, industries, corporate houses etc. year-wise during the last five years (only functional MoUs with ongoing activities to be considered)

2016-17	2015-16	2014-15	2013-14	2012-13
03	05	08	00	01

<b>File Description</b>	<b>Document</b>
e-copies of the MoUs with institution/ industry/ corporate house	<a href="#">View Document</a>
Details of functional MoUs with institutions of national, international importance, other universities etc. during the last five years	<a href="#">View Document</a>

NAAC

## Criterion 4 - Infrastructure and Learning Resources

### 4.1 Physical Facilities

**4.1.1 The institution has adequate facilities for teaching - learning. viz., classrooms, laboratories, computing equipment, etc**

**Response:**

**The following adequate facilities for teaching-learning are available in LBRCE:**

#### **Academic activities**

The college has adequate number of class rooms and laboratories as per norms to continue with any academic activity. Further, every Department is equipped with their own computing resources as well as departmental library. The Departments have their own specialized software in their laboratories. In addition to the above, the college has a Central Library which is equipped with different National and International journals. Digital Library is an additional advantage for the college. The high-end library server is an added advantage for the faculty and students in terms of storage of learning material and accessibility.

#### **Co-curricular activities (Auditorium, Open air theatre etc.)**

The college has its own auditoriums named as LOTUS hall and ROSE hall in addition to the department seminar halls in almost every department to meet the requirements.

#### **Laboratories**

All department of the college are fully equipped with latest state-of-the-art technology equipment as mentioned in the curriculum. Every department has got their own computing facility with latest software to meet their own requirements of major project/mini projects and research activity.

In addition to the regular curriculum, students are encouraged to pursue their study/project work in the emerging areas of Research. The college has established advanced Research laboratory facilities in specific areas to inculcate research habits among the student fraternity.

#### **Teaching Learning centres**

- Microsoft Innovation Centre
- CISCO Networking Academy
- Green Energy Technology Centre
- MEMS Centre
- National Instruments Centre of Excellence and Lab View academy
- E-YANTRA Lab
- ANSYS Skill Development Centre
- Professional Societies
- Prototype Modelling centre
- Mono Graphs making centre

The institution strongly believes that if the faculty and students are involved in diversified learning processes, the foundation would become stronger at the formative stages. With such an intention, the above laboratories are established.

### **General computer education**

All students admitted into the institution are provided with general computer education in addition to the necessary specialized training in branch specific subjects of their chosen branch of Engineering / Technology.

### **ICT as a Learning Resource**

The college has provided more than 1100 computers distributed to all the departments of the college for the day-to-day usage by the students and faculty. Every department has its own computing facilities to meet the curriculum needs. Laptops are also made available with the departments for faculty usage. Desktop Computers are also provided in staff rooms and departmental library.

Every department is provided with LCD projectors, Laptops and Overhead projectors for computer aided teaching. Internet is provided for all the departments and computer centres with 280 Mbps bandwidth. Computers are loaded with the required software as per the curriculum requirements. Software necessary for the preparation of computer aided teaching material by the faculty is also made available.

#### **4.1.2 The institution has adequate facilities for sports, games (indoor, outdoor),gymnasium, yoga centre etc., and cultural activities**

##### **Response:**

**The state of the art Indoor stadium has the following separate facilities for boys and girls:**

##### **INDOOR STADIUM SPECIFICARTIONS**

30m x 40m x 12m (High). Built to international specifications-4 Badminton courts, 2 volleyball court/Basket Ball court/Tennis Courts/Gymnastics and galley to accommodate 500 spectators. Pavilion building with Lourdes and dressing rooms for male and female players/athletes.

##### **Indoor Sports Facilities:**

- The institution has a fully competent and qualified Physical Director to train the students to participate in events conducted by the State/University.
- The institution has an Indoor and Outdoor stadium in an area of 8.58 acres, suitable for National level sports competitions.
- Students are trained well in sports and games. There is one separate sports wing to train students on different sporting aspects.
- A well qualified, dynamic Physical Director trains the students in both indoor and outdoor games.
- The state -of -the -art Indoor stadium has the following separate facilities for boys and girls. A 24 station state of art modern Gymnasium with a treadmill facility is provided. A weight lifting set is

also provided. A separate facility for the girl student's viz. sitting and standing twister equipment is available.

- Badminton Courts.
- Table Tennis Tables.
- Caroms, Chess, Dart etc.
- Space for cultural Activities.
- Guest rooms for visiting athletes and participants.
- Facilities for Yoga and Meditation.

### OUT DOOR STADIUM SPECIFICATIONS

- Stadium spread over an area of 9 acres. Comprises 400 mts running Track with provision for all athletic events, Cricket field with two practice pitches, Football court, 4 Volleyball courts, Basketball court, Handball court, 3 Kho-Kho courts 3 practice pitches and Kabaddi court
- Dormitory accommodation for 150 athletes and officials and open galleries for 2000 spectators

### Outdoor Sports Facilities

Professional grade facilities are provided for the following Outdoor games.

- Athletic Track
- Cricket Field
- Volley Ball courts
- Basket Ball courts
- Tennikoit
- Football Field
- Hockey Field
- Lawn Tennis
- Handball
- Facilities for field events like Javelin Throw, Shot-put, Hammer Throw, Discus Throw and Jumps etc,

File Description	Document
link for additional information	<a href="#">View Document</a>

#### 4.1.3 Percentage of classrooms and seminar halls with ICT - enabled facilities such as smart class, LMS, etc

**Response:** 86.49

##### 4.1.3.1 Number of classrooms and seminar halls with ICT facilities

**Response:** 64



File Description	Document
Number of classrooms and seminar halls with ICT enabled facilities	<a href="#">View Document</a>

#### 4.1.4 Average percentage of budget allocation, excluding salary for infrastructure augmentation during the last five years.

**Response:** 10.89

4.1.4.1 Budget allocation for infrastructure augmentation, excluding salary year-wise during the last five years (INR in Lakhs)

2016-17	2015-16	2014-15	2013-14	2012-13
196	152.7	91.5	190.31	109.95

File Description	Document
Details of budget allocation, excluding salary during the last five years	<a href="#">View Document</a>
Audited utilization statements	<a href="#">View Document</a>
Any additional information	<a href="#">View Document</a>

## 4.2 Library as a Learning Resource

### 4.2.1 Library is automated using Integrated Library Management System (ILMS)

**Response:**

**Library:**

- The entire library is automated using computer systems.
- The Digital Library is provided with Tidal data ML – 11220 Server with 4.7 TB storage
- The library is a member of DELNET and provides web access to 1,21,08,793 Records of books, Periodicals, Theses, Dissertations. It is connected with 2196 libraries in 32 states in India and other countries.
- Transactions are automated by using bar code reader.
- The following features can be accessed from any computer within the campus
  - availability of books by subject wise / author wise
  - account information like books taken and due date to return
  - fine amount to be paid for books not returned
  - access to the e-resources /NPTEL /SONET video lectures

S.No	Name of the ILMS software	Nature of automation (fully or partially)	Version	Year
01	Volk Soft Technologies , Hyderabad	Fully	V 10.0.9.23	2005

File Description	Document
link for additional information	<a href="#">View Document</a>

#### 4.2.2 Collection of rare books, manuscripts, special reports or any other knowledge resource for library enrichment

##### Response:

In due consideration of the demand made by the students and faculty, the Librarian places orders for the required no.of titles and volumes, which are quite regularly referred by the users. Further, the users use the facility of accessing e-journals as well as the reprographic facilities in order to meet their requirements. In regular interval, the librarian collects the recommendations of books for central library and department libraries as well from the HoDs and faculty members. Also, the librarian places orders for all required books as per the needs of the curriculum. Every year, it is a common feature for the college library to conduct a book exhibition by inviting various prestigious publishing houses.

File Description	Document
Any additional information	<a href="#">View Document</a>

#### 4.2.3 Does the institution have the following

- 1.e-journals
- 2.e-ShodhSindhu
- 3.Shodhganga Membership
- 4.e-books
- 5.Databases

Any 4 of the above

Any 3 of the above

Any 2 of the above

Any 1 of the above

**Response:** Any 3 of the above

File Description	Document
Details of subscriptions like e-journals,e-ShodhSindhu,Shodhganga Membership etc.	<a href="#">View Document</a>

#### 4.2.4 Average annual expenditure for purchase of books and journals during the last five years (INR in Lakhs)

**Response:** 21.76

4.2.4.1 Annual expenditure for purchase of books and journals year-wise during the last five years (INR in Lakhs)

2016-17	2015-16	2014-15	2013-14	2012-13
27.09	14.89	16.79	18.42	31.59

File Description	Document
Details of annual expenditure for purchase of books and journals during the last five years	<a href="#">View Document</a>
Audited statements of accounts	<a href="#">View Document</a>
Any additional information	<a href="#">View Document</a>

#### 4.2.5 Availability of remote access to e-resources of the library

**Response:** Yes

File Description	Document
Details of remote access to e-resources of the library	<a href="#">View Document</a>

#### 4.2.6 Percentage per day usage of library by teachers and students

**Response:** 15.25

4.2.6.1 Number of teachers and students using library per day over last one year

Response: 625

File Description	Document
Details of library usage by teachers and students	<a href="#">View Document</a>

### 4.3 IT Infrastructure

#### 4.3.1 Institution frequently updates its IT facilities including Wi-Fi

##### Response:

Consecutive up gradation arrangements are incorporated into yearly spending plan. The exercises have been arranged in a manner that, the IT framework and related offices are dependably keeping pace with best in class innovation. The college keeps up push on this crucial territory to guarantee nonstop and reliable accessibility tuned in to the developing needs and evolving innovations. The college places parcel of significance on e-learning and up gradation of transfer speed, availability and additionally different enhancements.

Amount spent for procurement, up gradation, deployment and maintenance of the computers and their accessories in the institution during last five years:

Academic Year	2016-17	2015-16	2014-15	2013-14	2012-13
Provision in the Annual Budget Amount spent	4,00,000-00	4,00,000-00	4,00,000-00	4,00,000-00	3,50,000-00
	3,81,000-00	4,60,000-00	2,80,000-00	3,50,000-00	3,90,000-00

Extensive use of ICT resources including development and use of computer-aided teaching/ learning materials by its staff and students. The college gives advanced library web broadband office for arrangement of showing and learning materials. All the college repositories undertaking reports, research papers, giving IEEE login. In addition, R&D labs having the product devices required for instructing, learning and research object are likewise accessible on the LAN.

Details of computerized hardware and software available in the college as ICT resources:

- Hardware: There are 8 centralized servers
- All computers are in LAN 10/100/1000 Mbps Internet connectivity from leased line from NettLinx India Ltd and Myguru Online India Pvt. Ltd. In Library 30 node are marked for exclusive for Digital Library & Internet Usage.

##### LICENSED SOFTWARES:

- MICROSOFT CAMPUS AGREEMENT
- MS-WINDOWS 2008 SERVER
- REDHAT LINUX 7.0

- SCO UNIX 5 .0.6
- ORACLE 8I
- MY SQL
- VISUAL STUDIO 6.0 VER
- JAVA DEVELOPMENT KIT
- TURBO C++ 4.5 & 3.0
- ADOBE COLLECTIONS
- UML -RATIONAL ROSE
- K7 ANTIVIRUS PACK.
- AUTO CAD DESIGN SUITE ULTIMATE 2015-125 USERS.
- ML MATLAB 8.2
- LAB VIEW
- ANSYS
- OPEN SOURCE S/W FEDORA, MY SQL, TOMCAT SERVER, JAVA, JDK7, ETC .

**TOTAL SERVERS : 8**

**TOTAL NODES: 1264**

- All Labs and Central Computing facilities are connected to LAN.
- Website: The site is redesigned at whatever point new data is to be included with respect to national symposium, classes, workshops, delicate notice, enrolments and as and when required.
- Systems are bought with 3 years or 5years guarantee and updated the same once the guarantee period is terminated if required.
- Support of PCs and their embellishments: These are kept up by overseer and specialized group of the college.
- E-Learning Courses: College caters to the needs of the faculty and the students by providing the access to e-learning content from NPTEL, Globarena, etc.,
- Wi-Fi for the entire campus with necessary firewalls.

**Updation of Wi-Fi Facilities:**

A.Y.	Bandwidth of leased line connection	ISP	Total Bandwidth
2016-2017	125 Mbps Leased Line	Myguru Online India Pvt	250Mbps
	125 Mbps Leased Line	Nettlinx	
2015-2016	100 Mbps Leased Line	Myguru Online India Pvt	200Mbps
	100 Mbps Leased Line	Nettlinx	
2014-2015	40 Mbps Leased Line	Nettlinx	48Mbps
2013-2014	08 Mbps Leased Line	Reliance Communications	
2012-2013	08 Mbps Leased Line	Reliance Communications	28Mbps

**4.3.2 Student - Computer ratio****Response:** 3.09

File Description	Document
Student - Computer ratio	<a href="#">View Document</a>

**4.3.3 Available bandwidth of internet connection in the Institution (Lease line )****?50 MBPS****35 MBPS - 50 MBPS****20 MBPS - 35 MBPS****5 MBPS - 20 MBPS****Response:** ?50 MBPS

File Description	Document
Details of available bandwidth of internet connection in the Institution	<a href="#">View Document</a>

**4.3.4 Facilities for e-content development such as Media Centre, Recording facility, Lecture Capturing System (LCS)****Response:** Yes

File Description	Document
Facilities for e-content development such as Media Centre, Recording facility,LCS	<a href="#">View Document</a>

**4.4 Maintenance of Campus Infrastructure****4.4.1 Average Expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component, as a percentage during the last five years****Response:** 88.74

4.4.1.1 Expenditure incurred on maintenance of physical facilities and academic support facilities excluding salary component year-wise during the last five years (INR in Lakhs)

2016-17	2015-16	2014-15	2013-14	2012-13
1429.17	1274.43	1260.22	1019.75	1074.83

File Description	Document
Details about assigned budget and expenditure on physical facilities and academic facilities	<a href="#">View Document</a>

**4.4.2 There are established systems and procedures for maintaining and utilizing physical, academic and support facilities - laboratory, library, sports complex, computers, classrooms etc.**

**Response:**

All the Departments and various functioning units of the college are provided with all the required infrastructure facilities like class rooms, faculty rooms, girls waiting halls, laboratories etc. The effective usage of all the facilities is ensured by introducing exclusive hours for sports, extra lab hours, exclusive hours to visit advanced labs and Central Library in the regular time table itself. Students can avail the facility of yoga training every week. During these slots concerned class in-charges / faculty members will ensure the presence and utilization of facilities by the students.

A separate computer maintenance team is available which handles the departmental requirements. For every computer centre, a Programmer / Technician are recruited and a faculty member is made in-charge of the centre. An exclusive department with 04 hardware engineers is functioning in the college to cater to the needs of day-to-day computer maintenance. However, minor software and hardware problems are being handled by the concerned lab technicians. Central library has its dedicated human resource and the departmental libraries are taken care of by the department office assistant and a faculty In-charge of the concerned department.

All the departments take care of timely maintenance of the laboratory equipment. Most of the maintenance work is completed during summer break and a close monitoring of maintenance activities is a prime responsibility of heads of the departments.

## Criterion 5 - Student Support and Progression

### 5.1 Student Support

#### 5.1.1 Average percentage of students benefited by scholarships and freeships provided by the Government during the last five years

**Response:** 59.09

5.1.1.1 Number of students benefited by scholarships and freeships provided by the Government year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
2352	2271	2126	2028	1830

#### File Description

#### Document

Upload self attested letter with the list of students sanctioned scholarships

[View Document](#)

Average percentage of students benefited by scholarships and freeships provided by the Government during the last five years

[View Document](#)

#### 5.1.2 Average percentage of students benefited by scholarships, freeships, etc. provided by the institution besides government schemes during the last five years

**Response:** 1.95

5.1.2.1 Total number of students benefited by scholarships, freeships, etc provided by the institution besides government schemes year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
145	96	77	22	21

#### File Description

#### Document

Number of students benefited by scholarships and freeships besides government schemes in last 5 years

[View Document](#)

Any additional information

[View Document](#)



**5.1.3 Number of capability enhancement and development schemes –**

1. Guidance for competitive examinations
2. Career Counselling
3. Soft skill development
4. Remedial coaching
5. Language lab
6. Bridge courses
7. Yoga and Meditation
8. Personal Counselling

**7 or more of the above**

**Any 6 of the above**

**Any 5 of the above**

**Any 4 of the above**

**Response:** 7 or more of the above

<b>File Description</b>	<b>Document</b>
Details of capability enhancement and development schemes	<a href="#">View Document</a>
Link to Institutional website	<a href="#">View Document</a>

**5.1.4 Average percentage of students benefited by guidance for competitive examinations and career counselling offered by the institution during the last five years**

**Response:** 19.2

5.1.4.1 Number of students benefited by guidance for competitive examinations and career counselling offered by the institution year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
809	835	646	573	601

<b>File Description</b>	<b>Document</b>
Number of students benefited by guidance for competitive examinations and career counselling during the last five years	<a href="#">View Document</a>

**5.1.5 Average percentage of students benefited by Vocational Education and Training (VET) during the last five years****Response:** 10.8

## 5.1.5.1 Number of students attending VET year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
773	612	210	200	196

**File Description****Document**

Details of of students benefited by Vocational Education and Training (VET)

[View Document](#)**5.1.6 The institution has a transparent mechanism for timely redressal of student grievances including sexual harassment and ragging cases****Response:** Yes**File Description****Document**

Details of student grievances including sexual harassment and ragging cases

[View Document](#)**5.2 Student Progression****5.2.1 Average percentage of placement of outgoing students during the last five years****Response:** 35.18

## 5.2.1.1 Number of outgoing students placed year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
382	515	373	246	167

**File Description****Document**

Self attested list of students placed

[View Document](#)

Details of student placement during the last five years

[View Document](#)

**5.2.2 Percentage of student progression to higher education (previous graduating batch)****Response:** 8.69

## 5.2.2.1 Number of outgoing students progressing to higher education

Response: 84

File Description	Document
Upload supporting data for student/alumni	<a href="#">View Document</a>
Details of student progression to higher education	<a href="#">View Document</a>
Any additional information	<a href="#">View Document</a>

**5.2.3 Average percentage of students qualifying in State/ National/ International level examinations during the last five years (eg: NET/ SLET/ GATE/ GMAT/ CAT/ GRE/ TOEFL/ Civil Services/State government examinations)****Response:** 75.2

## 5.2.3.1 Number of students qualifying in state/ national/ international level examinations (eg: NET/ SLET/ GATE/ GMAT/ CAT/ GRE/ TOEFL/ Civil services/ State government examinations) year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
59	128	115	101	99

## 5.2.3.2 Number of students appearing in state/ national/ international level examinations (eg: NET/SLET/GATE/GMAT/CAT, GRE/TOEFL/ Civil Services/State government examinations) year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
97	153	140	131	137

File Description	Document
Upload supporting data for the same	<a href="#">View Document</a>
Number of students qualifying in state/ national/ international level examinations during the last five years	<a href="#">View Document</a>

### 5.3 Student Participation and Activities

**5.3.1 Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be counted as one) during the last five years**

**Response:** 40

5.3.1.1 Number of awards/medals for outstanding performance in sports/cultural activities at national/international level (award for a team event should be counted as one) year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
13	03	03	7	14

File Description	Document
Number of awards/medals for outstanding performance in sports/cultural activities at national/international level during the last five years	<a href="#">View Document</a>
e-copies of award letters and certificates	<a href="#">View Document</a>
Any additional information	<a href="#">View Document</a>

**5.3.2 Presence of an active Student Council & representation of students on academic & administrative bodies/committees of the institution**

**Response:**

*The various student council & representative committees in LBRCE are:*

- **Class Review Committee**

Every Class of the Degree Program shall have a Class Review Committee, consisting of Faculty and Students.

Student members of class review committee assist the DAC (Departmental Academic Committee) in the process of academic plan implementation of every subject in a semester.

- **IQAC**

Student members of IQAC help to propagate quality policies adopted by the institution among the student fraternity and also help in projecting the student view point while taking any quality policy decision.

- **Students' professional societies**

Most of these societies are maintained completely by students under the guidance of faculty members according to a plan of activity.

- **Library Committee**

Student members of the library committee will assist in the procurement of text books, journals and other learning material.

- **Alumni Association**

Every department attends to the coordination and liaison activity with alumni through the appointed students.

- **Anti-Ragging committee**

Student members assist the institution in implementing rigid anti-ragging measures so that the institution becomes ragging-free campus.

- **Grievance Redressal Cell**

The matters of harassment and suppression of any single individual are handled by grievance redressal cell. Student members can help other students to present the grievance in case the sufferers want the representation in absentia.

- **SAHELI-The Girls Club**

The objectives of this club are to empower women and girls in academia through imparting educational, awareness training programmes, to strengthen them towards leadership and self-motivation and to make them confident individuals in career.

- **Cultural Committee**

All the cultural activities during the important occasions of College day, Freshers' day, annual cultural festival (LAKSHYA) are coordinated by this committee.

- **NSS**

To inculcate awareness of social problems by the students, NSS activities are coordinated with large participation by students every year.

- **Language & creativity club**

In view of the critical significance of language skills in globalized world, students organize this club through activities like debating, group discussions, book reading and review, poetry, quiz and creative writing.

**5.3.3 Average number of sports and cultural activities / competitions organised at the institution level per year****Response:** 11

5.3.3.1 Number of sports and cultural activities / competitions organised at the institution level year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
11	11	11	11	11

File Description	Document
Report of the event	<a href="#">View Document</a>
Number of sports and cultural activities / competitions organised per year	<a href="#">View Document</a>

**5.4 Alumni Engagement****5.4.1 The Alumni Association/Chapters (registered and functional) contributes significantly to the development of the institution through financial and non financial means during the last five years****Response:**

The Alumni Association of Lakireddy Bali Reddy College of Engineering (AALBRCE) is a registered society with registration number 154 on 28th April, 2006. The main objective is to enrol all alumni as members of the association and facilitating active participation of the alumnae in appropriate activities, events, and initiatives of the Institute. The LBRCE Alumni Association is an official unit of the Institute with the primary objective of facilitating the pleasant and friendly interface to all the LBRCE alumnae and creating a single semantic web of LBRCE fraternity. The LBRCE is truly proud of its brilliant alumni who are currently positioned all over the globe and have distinguished themselves in all spheres of high-end engineering and technology. The main aim of the LBRCE Alumni Association is to coordinate the networking of all the LBRCE alumni and to create a single global LBRCE community for the benefit of institute as well as student community.

**Mentorship:** Alumni can play an active role in voluntary programs like mentoring students in their areas of expertise. To utilize the rich experiences of old students of the college for the benefit. To assist the students in securing suitable jobs.

**Placements:** The alumni network of a college is one of the biggest sources of placement opportunities to the students. Alumni can help students get placed at their respective organizations. Job opportunities are provided by the alumni in their companies.

**Career Guidance:** The carrier guidance programs are organized by AALBRCE by inviting alumni form

reputed university. Alumni are a huge talent pool whose guidance can be beneficial to many students and other fellow-alumni in their respective areas of study. To arrange seminars, debates, workshops on present trends in technology.

**Networking Platform:** Alumni network by itself is one of the best professional networking platforms available today. Right link solution is software is introduced recently to build a strong network between the college, present students, parents and College management.<https://rightlink.org/alumni/lbrce/>

**College Alumni Day:** Alumni meet is going to take place in campus on every year second Saturday in the month of February to provide a forum for the Alumni to interact with the Institute. To bring together all the old students and the faculty of LBRCE to share their experiences with each other.

**Online Alumni Survey:** To get online survey about how the state and study in LBRCE in the present position. Feedback is collect from the alumni to update the curriculum which are suitable for present needs of industry and technology. To get the valuable advices of the Alumni for development of the college.

**Database:** To maintaining and updated the database of all the alumni and to interact with them. To share this updated current information in the database available in the website. To provide a common platform for the alumni of the institute to reach out to other alumni across various years, batches, branches, and interests.

File Description	Document
Link for Additional Information	<a href="#">View Document</a>

#### 5.4.2 Alumni contribution during the last five years(INR in Lakhs) ? 15 Lakhs

10Lakhs - 15 Lakhs

5 Lakhs - 10 Lakhs

2 Lakhs - 5 Lakhs

**Response:** <2 Lakhs

File Description	Document
Alumni association audited statements	<a href="#">View Document</a>

#### 5.4.3 Number of Alumni Association / Chapters meetings held during the last five years

**Response: 5**

## 5.4.3.1 Number of Alumni Association /Chapters meetings held year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
01	01	02	01	00

<b>File Description</b>	<b>Document</b>
Report of the event	<a href="#">View Document</a>
Number of Alumni Association / Chapters meetings conducted during the last five years.	<a href="#">View Document</a>



## Criterion 6 - Governance, Leadership and Management

### 6.1 Institutional Vision and Leadership

#### 6.1.1 The governance of the institution is reflective of an effective leadership in tune with the vision and mission of the institution

##### Response:

##### VISION

To empower the students to become technologically vibrant, innovative and emotionally matured and to train them to face the challenges of the quality conscious globalized world economy.

##### MISSION

- To provide an environment most conducive to learning and to create a stimulating intellectual atmosphere in the campus.
- To achieve Academic Excellence.
- To ensure a holistic development of personality.
- To spread education to rural areas.
- To establish partnership between Institution & Industry.

##### Leadership functions of the Head of the Institution

To provide directions and perspective plans for the growth of the institution

- Financial planning in the form of budget
- To ensure end results by periodical monitoring
- Coordinates all the policy matters in consultation with the college team and present it to the Board for final approval.
- To motivate faculty for pursuing the research and provide excellent R&D environment
- To counsel students regularly and motivate them for conceptual learning

##### Measures are taken by the institution to translate quality to the functioning of its various administrative and academic units

All units function as per the guidelines of AICTE / JNTU. ISO 9001:2015 standards are followed. Faculty self appraisal also helps toward the quality enrichment of the academic process. Computerization is introduced in academic section, student section, scholarship section, library and examination section so as to ensure accuracy. Internal audit is being performed to retain the quality/standards in the implementation of various activities. The academic regulations, exam procedures, teaching and learning mechanisms, additional facilities like CISCO Academy, IBM software centre of excellence, Microsoft Innovation Center, NI Centre of Excellence, National MEMS design center and other research centers are meant for developing and enhancing the quality of academics and Research. Sustaining quality research and development activity is the top priority while providing a congenial and healthy atmosphere in pursuing academic excellence.

Majority of the faculty members are constantly involved in pursuing their Research activities in their areas of specialization. As a result of this their Research findings are published in journals of National and International repute. The college is in possession of several sponsored Research projects as a result of which the quality of teaching at the UG and PG courses are of very high standard. Thus, the quality of teaching is maintained throughout.

### **Faculty involvement in decision-making**

Faculty members are actively participating in department level meetings and the resolutions are passed on to the Principal for final decision. In addition, faculty members are serving as members of various committees formed at department level and institute level where the decisions and opinions of committee members play crucial role in decision making. The Principal regularly conducts College Advisory Board (CAB) meeting to discuss various issues. All such issues are addressed by the Head of the Departments with their faculty for implementing the decisions taken by the Principal.

### **6.1.2 The institution practices decentralization and participative management**

#### **Response:**

All the departments of the college function under the direct supervision of Principal. Day-to-day academic activities of the departments are taken care of by the HoDs. Examination related activities are handled by Controller of examinations.

Under direct supervision of Principal, Administrative office, examination section, central library and all the UG and PG departments will be functioning. Time to time Principal conducts meeting with the concerned incharges / HoDs and at department / unit level, Heads / Concerned Incharges will conduct the meeting with the concerned members to discuss various issues and resolutions made will be passed on to Principal for further action. Similarly, the outcomes of Principal meeting will be passed on to individual faculty / staff for implementation.

The following committees are in existence to decentralize the academic and administrative activities.

- IQAC
- Finance Committee
- Disciplinary and Anti-Ragging Committee
- Grievance and Redressal Committee
- Internal Complaint Committee
- Examination Committee
- Academic and Administrative Audit (AAA) Committee
- Purchasing Committee
- R&D Committee
- Innovation, Incubation and Enterpreneureship Committee
- Skill Development Committee
- Training and Placement Committee
- Library Committee
- NSS Committee

- Sports and Yoga Committee
- NCC Committee

## 6.2 Strategy Development and Deployment

### 6.2.1 Perspective/Strategic plan and Deployment documents are available in the institution

#### Response:

**Present Position:** The College was started in the year 1998 with 4 branches of engineering. Subsequently 3 more branches of engineering and 6 PG courses were added. At present the college is offering 8 UG and 6 PG courses including MCA & MBA. From the A.Y.2010-11 the college has become Autonomous Institution. The college is accredited by NAAC with 'A' grade and ISO 9001:2015 certified the Institution. Right from the inception, the college has functioned with good quality policy. However, a formalization of IQAC is done in the A.Y 2012-13 and since then this IQAC is functioning with focus to develop, drive, deploy and review the quality policy. The present IQAC takes into account the vision & mission and several other aspects of the institution and formulates processes to ensure quality outcome. The IQAC works closely with the management and the Principal to drive and implement the processes across the institution. The cell meets once in three months to review the progress of implementation and accordingly makes policy decisions where ever necessary. Our improved efforts in implementing better quality policies resulted in getting UGC 2(f) &12(B) status along with Colleges with Potential for Excellence (CPE).

The prominent resources that the institution currently has are

- Well qualified and experienced faculty members
- State-of-the art Central Library
- Good infrastructure facilities with full-fledged laboratories and computer centres in every department
- Advanced Research Centres

#### Perspective Plan for the development of college:

- Standardizing the ICT based teaching-learning processes
- Creating an intense research ambiance in terms of establishing R&D centres that can execute R&D sponsored projects from funding agencies as well as to produce a good number of doctoral degree holders.
- Consider offering courses with flexible learning options, such as self-learning modules using modern educational technology
- Offering Value added certification courses
- Strengthen industry-institute interaction
- Improve consultancy services
- Adoption and implementation of CBCS
- Organizing an International Conference every year
- Getting the status of Deemed- to- be- University.

After the accreditation period of the Institution, the following major deployments have been taken place.

- Academic Autonomy-Extended up to 2022
- NBA Re-Accreditation- 03 UG programs(EEE,MECH and ECE)
- UGC accorded College with Potential for Excellence(CPE)
- ISO 9001:2015 certified institution
- Establishment of Advanced Labs(e-yantra, NI LabVIEW, CISCO,GETC,MEMS,ANSYS)
- Recognized research centers (CSE,EEE,ECE,MECH) by JNTUK,Kakinada
- ANSYS skill development center and NI LabVIEW- center of Excellence
- Functional MOUs
- Introduction of new UG & PG courses- (UG-CIVIL,PG-M.Tech in VLSI & Embedded systems)
- Increase of intake into certain branches-(MECH & ECE-120 to 180)
- Adopted Choice Based Credit System (CBCS) in curriculum
- Conducted sponsored and in-house workshops/seminars, International Conference

### **6.2.2 Organizational structure of the institution including governing body, administrative setup, and functions of various bodies, service rules, procedures, recruitment, promotional policies as well as grievance redressal mechanism**

**Response:**

#### **Functions of the Governing Body:**

1. Determine and prescribe courses of study and syllabi, and restructure and redesign the courses to suit local needs, make it skill oriented and in consonance with the job requirements.
2. Promote research in relevant fields.
3. Evolve methods of assessment of students' performance, the conduct of examinations and notification of results.
4. Use modern tools of educational technology to achieve higher standards and greater creativity.
5. Promote healthy practices such as community service, extension activities, projects for the benefit of the society at large, neighbourhood programmes, etc.
6. Institute scholarships, fellowships, studentships, medals, prizes and certificates on the recommendations of the Academic Council.
7. Approve new programmes of study leading to degrees and/or diplomas.

#### **Functions of the Academic Council:**

1. Scrutinise and approve the proposals with or without modification of the Boards of Studies with regard to courses of study, academic regulations, curricula, syllabi and modifications thereof, instructional and evaluation arrangements, methods, procedures relevant thereto etc., provided that where the Academic Council differs on any proposal, it will have the right to return the matter for reconsideration to the Board of Studies concerned or reject it, after giving reasons to do so.
2. Make regulations regarding the admission of students to different programmes of study in the college keeping in view the policy of the Government.
3. Make regulations for sports, extra-curricular activities, and proper maintenance and functioning of the playgrounds and hostels.

- 4.Recommend to the Governing Body proposals for institution of new programmes of study.
- 5.Recommend to the Governing Body institution of scholarships, studentships, fellowships, prizes and medals, and to frame regulations for the award of the same.
- 6.Advise the Governing Body on suggestions(s) pertaining to academic affairs made by it.
- 7.Perform such other functions as may be assigned by the Governing Body

**Functions of Board of Studies:**

- 1.Prepare syllabi for various courses keeping in view the objectives of the college, interest of the stakeholders and national requirement for consideration and approval of the Academic Council;
- 2.Suggest methodologies for innovative teaching and evaluation techniques
- 3.Suggest panel of names to the Academic Council for appointment of examiners; and
- 4.Coordinate research, teaching, extension and other academic activities in the department/college.

**Functions of the Finance Committee:**

The Finance Committee will be an advisory body to the Governing Body, to consider:

(a) Budget estimates relating to the grant received/receivable from various funding agencies, and income from fees, etc. collected for the activities to undertake the scheme of autonomy; and

(b) Audited accounts for the above.

- **service rules, procedures, recruitment, promotional policies are made available at institute website:**[http://www.lbrce.ac.in/LBRCE\\_service%20rules.pdf](http://www.lbrce.ac.in/LBRCE_service%20rules.pdf)

File Description	Document
Link to Organogram of the Institution webpage	<a href="#">View Document</a>
Link for Additional Information	<a href="#">View Document</a>

**6.2.3 Implementation of e-governance in areas of operation**

- 1.Planning and Development
- 2.Administration
- 3.Finance and Accounts
- 4.Student Admission and Support
- 5.Examination

All 5 of the above

Any 4 of the above

Any 3 of the above

Any 2 of the above

Response: Any 4 of the above

File Description	Document
Screen shots of user interfaces	<a href="#">View Document</a>
Details of implementation of e-governance in areas of operation Planning and Development,Administration etc	<a href="#">View Document</a>

#### 6.2.4 Effectiveness of various bodies/cells/committees is evident through minutes of meetings and implementation of their resolutions

Response:

Bodies/cells/committees	Agenda & Resolutions	Evidence of successful implementation
Governing Body meeting held on 15-06-2014	Strengthen department wise R&D activities	<ul style="list-style-type: none"> <li>• For every department separate R&amp;D budget is allocated.</li> <li>• 03 Major projects are completed · 03 Major and 02 Minor projects are ongoing</li> <li>• 10 Major and 04 Minor projects are submitted.</li> <li>• Total 56 Lakhs rupees received from Govt. of India funding agencies.</li> <li>• CSE,EEE,ECE and MECH departments are recognised as research centres by JNTUK, Kakinada.</li> </ul>
College Academic Council(CAC) meeting held on 22-06-2014	Offer Value added and certification courses	Number of certification programs viz. Microsft, CISCO, NI LabVIEW, ANSYS, Indwell etc.are conducted on latest technologies for the benefit of the students in various departments.

### 6.3 Faculty Empowerment Strategies

#### 6.3.1 The institution has effective welfare measures for teaching and non-teaching staff

Response:

**Following welfare schemes are available for teaching and nonteaching staff:**

- EPF facility
- Insurance cover for Health (Rs.1,00,000/- Medi-claim)
- Free Transport for Professors & Concessional Transport for other staff.
- Free medical facility for common ailments
- Gratuity for supporting staff
- 50% tuition fee concession for supporting staff children studying at LBRCE
  
- Group Life Insurance
- Salary advances to the needy staff
- Loans for purchase of laptops
  
- Personal loans are also being arranged with corporate guarantee
- Free uniforms for class IV employees
- Accident insurance policy for drivers

**6.3.2 Average percentage of teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies during the last five years****Response:** 43.18**6.3.2.1 Number of teachers provided with financial support to attend conferences / workshops and towards membership fee of professional bodies year-wise during the last five years**

2016-17	2015-16	2014-15	2013-14	2012-13
130	120	117	110	29

File Description	Document
Details of teachers provided with financial support to attend conferences,workshops etc. during the last five years	<a href="#">View Document</a>

**6.3.3 Average number of professional development /administrative training programs organized by the institution for teaching and non teaching staff during the last five years****Response:** 20.6**6.3.3.1 Total number of professional development / administrative training programs organized by the Institution for teaching and non teaching staff year-wise during the last five years**

2016-17	2015-16	2014-15	2013-14	2012-13
25	14	25	13	26

File Description	Document
Reports of Academic Staff College or similar centers	<a href="#">View Document</a>
Details of professional development / administrative training programs organized by the Institution for teaching and non teaching staff	<a href="#">View Document</a>

#### 6.3.4 Average percentage of teachers attending professional development programs viz., Orientation Program, Refresher Course, Short Term Course, Faculty Development Program during the last five years

**Response:** 82.57

6.3.4.1 Total number of teachers attending professional development programs, viz., Orientation Program, Refresher Course, Short Term Course, Faculty Development Programs year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
207	219	204	174	145

File Description	Document
IQAC report summary	<a href="#">View Document</a>
Details of teachers attending professional development programs during the last five years	<a href="#">View Document</a>

#### 6.3.5 Institution has Performance Appraisal System for teaching and non-teaching staff

**Response:**

We have developed a strategy to retain the employees for relatively long period by clearly defining their roles and responsibilities and evaluate their performance by specifying Faculty Performance Index (FPI) on 10 point scale. This FPI is measured every semester with 60% weightage from student feedback analysis, 25% weightage from pass percentage in the subjects taught, and 15% weightage for all departmental , institute level and R&D contributions(Funding Projects, Publications, Conferences, FDPS, etc.)

The appraisal policy is as follows:



- FPI > 9 – Self Appraisal (A-Category)
- $9 < \text{FPI} < 8$ - Appraisal by HOD (B-Category)
- FPI < 8- (C-Category) Counselling by HOD & Principal followed by completing academic assignments to improve the performance, like preparing course material, answers for assignments, notes for important topics in further academic load allocated.
- Based on the FPI, Best Teacher awards are given on the eve of Teachers' day celebrations
- Incentives are given to the faculty for publishing articles in journals of highly repute and funded R&D projects .

The performance of the non-teaching staff is currently appraised every year by the immediate supervisor followed by the necessary training and counselling.

## 6.4 Financial Management and Resource Mobilization

### 6.4.1 Institution conducts internal and external financial audits regularly

#### Response:

In every financial year the college will conduct internal audit through departmental staff as well as external audit by the statutory Auditors. The internal financial accounting would be completed before 10th of every month considering all the previous month transactions. After completion of the monthly accounts the same accounts would be audited by the internal auditors appointed by the management. While verifying entries, if any mistakes/ short comings identified/noticed the same could be rectified in the same month by the concerned departments. After rectifications if any, the report would be submitted by internal auditors to the Governing Body for approval. The external statutory auditors shall visit the college office twice in a year for vouching audit and submitting the final audit report.

After completion, the final statutory audit report shall be submitted to the Governing body for approval in the month of June every year. After approval, the financial accounts, documents could be used for all statutory purposes.

### 6.4.2 Funds / Grants received from non-government bodies, individuals, Philanthropists during the last five years (not covered in Criterion III) (INR in Lakhs)

Response: 20.51

6.4.2.1 Total Grants received from non-government bodies, individuals, philanthropists year-wise during the last five years (INR in Lakhs)

2016-17	2015-16	2014-15	2013-14	2012-13
8.955	6.35	4.15	0.05	1

File Description	Document
Details of Funds / Grants received from non-government bodies during the last five years	<a href="#">View Document</a>

### 6.4.3 Institutional strategies for mobilisation of funds and the optimal utilisation of resources

#### Response:

As a part of Outcome Based Education system, this institution has given utmost importance for the generation and utilization of funds to meet the objectives of the institution. The institutional strategy to generate funds is primarily based on Quality enhancement strategy. This strategy is essential in teaching-learning and scientific-work environment. By quality enhancement, the scope for increasing consultancy widens which leads to generation of more funds. By providing quality enhancement, a better fee structure can be claimed by the college that can be sanctioned by the government. This also leads to improved funding. Hence, quality enhancement of the institution is nurtured to generate funds from different sources.

Optimal utilization of funds is ensured through the following:

1. Adequate funds are allocated for effective teaching-learning practices that include conduct of FDPs, orientation programs, workshops, inter-disciplinary activities, training programs that ensures quality education.
2. Adequate remuneration based on the performance-quotient of the teaching professionals is provided.
3. The budget will be utilised to meet day-to-day operational and administrative expenses and maintenance of the fixed assets.
4. The grants received from the external funding agencies are effectively utilized in implementation of projects by procuring the suitable equipment. This equipment is further utilized in the established advanced laboratories of the institute. Availability of such equipment has further improved the research interest of the faculty and students.
5. Enhancement of library facilities leads to novel learning practices and accordingly requisite funds are utilized for this every year.
6. Adequate funds are utilized for development and maintenance of very good infrastructure for the institute.
7. Some funds are allocated for social service activities as a part of social responsibility.

## 6.5 Internal Quality Assurance System

### 6.5.1 Internal Quality Assurance Cell (IQAC) has contributed significantly for institutionalizing the quality assurance strategies and processes

#### Response:

- The IQAC of the College was established in 2012.

- AQAR of the College appropriately captures the quality policy of the College, strategies adopted, tools and methods followed to implement and institutionalize the quality policies.
- The IQAC of the College is involved in drawing the quality policies for Teaching-Learning, Research, Curriculum planning and implementation, Student activities, innovation and all the extra-curricular and co-curricular activities.

#### **Quality parameters developed for various academic / administrative activities of the institute.**

- Assessing the quality parameters and providing required suggestions for the improvement.
- Arranging training on pedagogy every semester for all newly admitted faculty.
- Conducting seminars / workshops, FDPs on emerging technologies for faculty.
- Conducting Guest Lectures from Industry/Experts.
- Arranging regular training / certification programmes for students and supporting staff.
- Encouraging R&D and Consultancy.
- Action plan for enhancing quality of student projects (outcome based approach)
- Action plan for improving the FPI (Faculty Performance Index)

#### **Teaching and Learning:**

#### **IQAC Contribute/Monitor/Evaluate the Teaching & Learning processes:**

- Feedback from the stakeholders (students, alumni, industry experts, research organizations and parents).
- Monitoring of course files, lecture Schedules, course plans by random sampling
- Verification of cycle test analysis, question papers
- Arrangement of special classes for weak students during evening hours.
- Identifying the new processes and recommending the same for improving the quality.

#### **Initiatives of the IQAC in Sensitizing/Promoting Research Climate in the institution**

- **Autonomy to the principal investigator**

The Principal investigators who were sanctioned projects from various funding agencies like DST, UGC, AICTE, MHRD etc., are given full autonomy in executing the project as per the guidelines of the funding organizations.

- **Timely availability or release of resources**

Principal maintains and provides all facilities like timely release of project funds for completion of the funded project.

- **Adequate infrastructure and human resources**

The departments have established research labs with necessary software and computing facilities to carryout research projects. Central library facilities are enhanced to update with online national and International reputed journals etc.

- **Time-off, reduced teaching load, special leave etc. to teachers**

Faculty members working on major research projects are given the facility of reduced teaching work-load in addition to sanctioning academic leave for attending the workshops/seminars relevant to their research projects and associated works.

- **Budget allocation for Research & Development**

The college makes budget provisions to procure necessary equipment for experimental projects, travel support for faculty attending conferences, internal funding, subscribing research journals up to date to strengthen the library, reference books and text books.

- **Support in terms of technology and information needs**

The institute/department encourages the students and faculty to utilize the advanced research laboratories, library, computer centre and software tools for carrying out their academic/research projects.

- **Facilitate timely auditing and submission of utilization certificate to the funding authorities**
- **Any other**

The college invites scientists, eminent professors and reputed researchers to share their experiences with faculty which enhance the research culture in the campus.

### **6.5.2 The institution reviews its teaching learning process, structures & methodologies of operations and learning outcomes at periodic intervals through IQAC set up as per norms**

#### **Response:**

#### **The following innovative processes adopted by the institution in Teaching and Learning:**

- 1.Promoting the usage of ICT.
  - 2.Implementing OBE
  - 3.Mapping course outcomes / instructional objectives and program educational objectives
  - 4.Arranging training on pedagogy and assessing its impact on teaching-learning.
  - 5.Arranging training on latest technologies.
  - 6.Conducting FDP programs on emerging technologies.
  - 7.Course coordinators for a section are nominated. His/her responsibilities include
- Monitoring the teaching-learning process of each subject in that Semester
  - Monitoring the schedules Helping the teacher of a subject on delivery methods after consulting Internal/external experts in that subject.

Besides regular classroom learning and innovative teaching methods like

- Field trips
- Industrial visits
- Internships

1. Guest lectures on advanced topics by the Eminent Academicians and industry experts.
2. Conducting seminars by students
3. Practice of emerging technologies through Mini projects and Term Papers
4. Faculty development through subject based workshops, orientation programs, seminars and conference programs, technology based workshops etc.

In addition, the following new processes have been adopted by LBRCE in 2013-14

1. The programs are designed by outcomes based approach.
2. Project based labs.

#### **IQAC Contribute/Monitor/Evaluate the Teaching & Learning processes:**

- The IQAC organizes regular academic audits to ensure effective implementation of teaching learning process and maintenance of course files.
- Verification of cycle test analysis, question papers
- Arrangement of special classes for weak students during evening hours.
- Identifying the new processes/delivery method and recommending the same for improving the quality.
- Analysing the deviations from the benchmarks and reporting.
- Feedback from the stakeholders (students, alumni, industry experts, research organizations and parents).

#### **Encouraging faculty for online certification Courses (NPTEL, MOOCS, Etc.):**

Total of 86 Faculty members and 70 Students have got NPTEL course completion certificates for various courses. LBRCE Local Chapter was rated as “AA” by NPTEL for March-April 2017 examinations.

Total of 98 Faculty members and 140 Students have got NPTEL course completion certificates for various courses. LBRCE Local Chapter was rated as “AA” by NPTEL for Sept-October 2017 examinations.

#### **Grouping the faculty members in to three or four based on specialization in each department:**

- In every department faculty members were grouped in to three or four depending on their specialization. Each group was headed by a Senior Faculty. The course files, assignments, etc. prepared by the junior faculty members were verified and suitable guidance for improvement was provided by the group leaders.

#### **Conducting Faculty Development Programs on Emerging technologies:**

- 07 Faculty development Programs and Five-Day Skill Development Training Programs are

organised in the A.Y:2016-17

- One Faculty development Program for 10 days, 02 Faculty development Programmes of each 30 hours and 02 Faculty development Programs of one week each are organised in the A.Y:205-16
- 04 one week Faculty development Programme are organised in the A.Y:2014-15

### 6.5.3 Average number of quality initiatives by IQAC for promoting quality culture per year

**Response:** 6.2

6.5.3.1 Number of quality initiatives by IQAC for promoting quality year-wise for the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
12	11	5	2	1

File Description	Document
Number of quality initiatives by IQAC per year for promoting quality culture	<a href="#">View Document</a>
IQAC link	<a href="#">View Document</a>

### 6.5.4 Quality assurance initiatives of the institution include

1. Regular meeting of Internal Quality Assurance Cell (IQAC); timely submission of Annual Quality Assurance Report (AQAR) to NAAC; Feedback collected, analysed and used for improvements
2. Academic Administrative Audit (AAA) and initiation of follow up action
3. Participation in NIRF
4. ISO Certification
5. NBA or any other quality audit

Any 4 of the above

Any 3 of the above

Any 2 of the above

Any 1 of the above

**Response:** Any 4 of the above

File Description	Document
e-copies of the accreditations and certifications	<a href="#">View Document</a>
Details of Quality assurance initiatives of the institution	<a href="#">View Document</a>
Annual reports of Institution	<a href="#">View Document</a>

### 6.5.5 Incremental improvements made during the preceding five years (*in case of first cycle*) Post accreditation quality initiatives (*second and subsequent cycles*)

#### Response:

LBRCE is an Autonomous, ISO 9001:2015 Certified institution, approved by AICTE, affiliated to JNTUK, Kakinada, Accredited by NAAC with 'A' Grade for the first time in January 2012, is a premier institution in Engineering, Technology and Management Education. We strive to continuously improve and sustain quality in all the aspects of education. The Governing Body, College Academic Council, College Advisory Board (CAB), IQAC, Principal, the teaching fraternity, administration, the various departments, students and other stake holders jointly contribute towards making the college an institution pursuing excellence. The following are the quality initiatives have been made by the institution.

#### Curricular Aspects

Outcome based approach has been implemented at LBRCE.

Careful study of the content of the curriculum and syllabi of all the UG/PG programs offered by LBRCE, a set of PEOs, POs, PSOs and COs have been diligently framed for each program.

In the A.Y 2014-15 new regulations R14 in the lines of OBE was introduced. Few salient points are:

1. The student shall register for 182 credits and secure all the 182 credits.
2. Professional Ethics and Human Values and Environmental Studies courses are introduced as Mandatory Courses
3. Programme Elective Courses
4. Open Elective Courses
5. NPTEL courses
6. Internship
7. Mini Project
8. Communication and Presentation Skills Lab.

#### Teaching, Learning and Evaluation

Number of Ph.D holders in the campus increased from **27 in 2013 to 60 in 2017**. Subject allotment is based on the competency matrix and experience of the teacher.

Attainment of the COs, POs and PSOs are the recent additions.

Faculty/Students are utilizing the NPTEL lectures and e-resources.

In the A.Y 2016-17 total of 86 Faculty members and 70 Students have got NPTEL course completion certificates.

Awards and prizes to the deserving students.

Eminent senior faculty members are appointed to hold key positions.

Reputed academicians and renowned industry personnel visit the campus to enlighten the faculty and students.

On-line feedback on each course has been implemented.

Incubation Cell has been initiated.

From the A.Y 2014-15 onwards, a systematic procedure has been evolved to review the overall performance of the departments annually.

### **Research and Development**

Advanced Research labs have been initiated.

Progressively increasing number of proposals have been submitted to various funding agencies.

Through funded research projects a total amount of Rs. 250 lakh has been generated.

Five departments are recognized as research centres by JNTUK.

The number of publications in peer reviewed journals with good Impact Factor is increased.

### **Recognition for the institute**

Institute has got UGC 2(f) & 12(B) status

UGC accorded institute as Colleges with Potential for Excellence (CPE)

Academic Autonomy sanctioned by UGC has been extended up to 2022

Three programs (ME, ECE, EEE) are accredited by NBA under Tier-I

ISO 9001:2015 certified the institute

04 departments are recognised as research centers by affiliating university

LBRCE recognised as NPTEL local chapter and rating has been increased from grade A to AA with active participation of faculty and students.



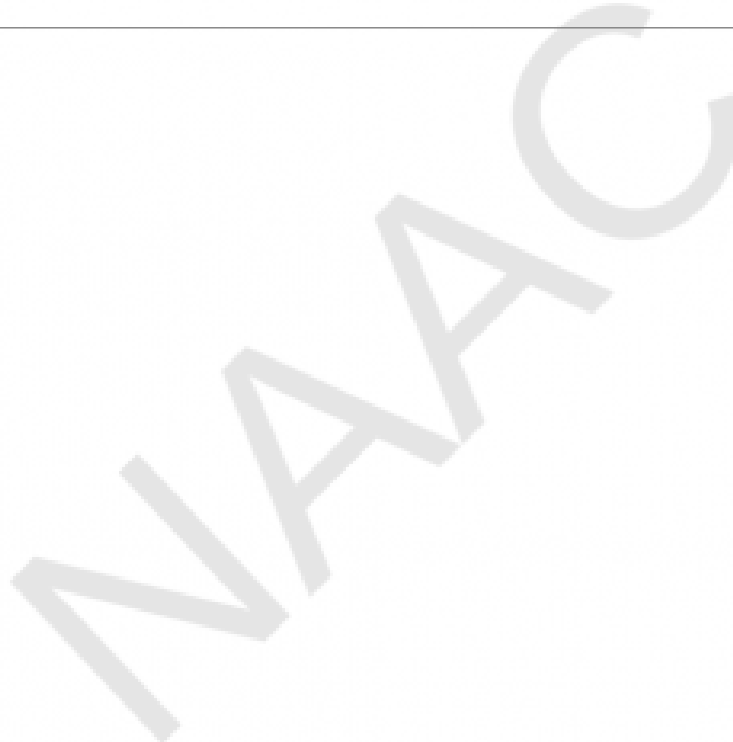
### **Infrastructure and Learning Resources**

New academic blocks, classrooms, labs, staff cabins and seminar halls have been built.

The internet bandwidth has been increased from 28 MBPS to 280 MBPS with Wi-Fi.

Swayam praba, NPTEL, e-journals, Spoken Tutorials are effectively being used

There are number of advanced software tools (ANSYS 18.1, MATLAB, NI LabVIEW, PSCAD) have been purchased.



## Criterion 7 - Institutional Values and Best Practices

### 7.1 Institutional Values and Social Responsibilities

**7.1.1 Number of gender equity promotion programs organized by the institution during the last five years**

**Response:** 12

7.1.1.1 Number of gender equity promotion programs organized by the institution year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
04	03	01	02	02

**File Description**

**Document**

List of gender equity promotion programs organized by the institution

[View Document](#)

**7.1.2 Institution shows gender sensitivity in providing facilities such as**

**a) Safety and Security**

**b) Counselling**

**c) Common Room**

**Response:**

*Institution shows gender sensitivity in providing facilities such as:*

#### 1. Safety and Security

- The college explicitly and exhaustively follows safety norms in all aspects.
- Security wing consisting of 20 personnel safe guard the campus and hostels in all aspects and the entire campus which is covered under sufficient lighting arrangements. Safety and security for girl students is ensured by these personnel.
- Responsible faculty members can easily monitor the roads and the corridors all the buildings, classrooms and laboratories are sufficiently lighted.
- Timely medical assistance for girl students can be given since a full-time Doctor is available on campus
- Transport facilities are easily provided in case of emergency
- Grievance Cell provides a convenient opportunity for girl students to raise the problems of harassment preserving anonymity even

#### 2. Counselling

- For effective mentoring and welfare of the students, 15-20 students are attached to a faculty mentor. The mentoring system is adopted to improve the rapport between the faculty and students. The main objective is to keep track of the progress of the students and counsel them accordingly for academic and personal guidance.
- Parents of the students are timely informed wherever the necessity arises such as lack of attendance, poor academic performance and psycho-social problems.
- The college endeavours to look after the total personality development of students through CSS classes, Co-Curricular and extra - Curricular activities and counselling.
- The faculty offer guidance to the prospective professionals in addition to classroom teaching. The Training and Placement cell and Entrepreneurship development cell have been putting efforts in this direction.
- SAHELI-The Girls Club has a Mission
  - To empower women and girls in academia through imparting educational, awareness training programmes
  - To strengthen them towards leadership and self- motivation.
  - To make them confident and competent individuals in career and life.

### 3.Common Room

- Ladies waiting halls are made available in the every department.

#### 7.1.3 Percentage of annual power requirement of the Institution met by the renewable energy sources

**Response:** 0.06

##### 7.1.3.1 Annual power requirement met by renewable energy sources (in KWH)

Response: 462

File Description	Document
Details of power requirement of the Institution met by renewable energy sources	<a href="#">View Document</a>

#### 7.1.4 Percentage of annual lighting power requirements met through LED bulbs

**Response:** 17.39

##### 7.1.4.1 Annual lighting power requirement met through LED bulbs (in KWH)

Response: 7525

File Description	Document
Details of lighting power requirements met through LED bulbs	<a href="#">View Document</a>

### **7.1.5 Waste Management steps including:**

- **Solid waste management**
- **Liquid waste management**
- **E-waste management**

#### **Response:**

#### **Solid waste management**

Transport arrangements for solid waste as well as composting arrangements to convert into fertiliser are made available.

#### **Liquid waste management**

Drinking water facility is arranged in every building of the campus.

Wastage of drinking water is restricted through proper monitoring.

Waste water is properly drained out to maintain the greenery in the campus as well as providing ecologically aesthetic environment

Proper drainage system is arranged for all the buildings of the campus

#### **E-waste management**

- The condemned batteries and damaged computers are disposed through outside agencies.
- The low configured computers are donated to nearest schools
- Other E-waste materials are properly disposed
- Awareness programmes are initiated on E-waste management

### **7.1.6 Rain water harvesting structures and utilization in the campus**

#### **Response:**

#### ***Rain water harvesting structures and utilization in the campus***

##### **1. Water Harvesting**

To minimize the wastage of water resources and to improve the water table, the rain water is led into the 10 ponds located in between the different blocks and 10 pit holes are also provided.

##### **2. Check Dam Construction**

One Check Dam was constructed by local body (Gram Panchayathy) 2KMs before the college premises.

### 7.1.7 Green Practices

- Students, staff using
  - a) Bicycles
  - b) Public Transport
  - c) Pedestrian friendly roads
- Plastic-free campus
- Paperless office
- Green landscaping with trees and plants

**Response:**

#### Efforts for Carbon neutrality

- Care is taken to restrict vehicle entry into the campus and specific parking area is allotted for faculty and students. The institute restricted the usage of plastic bags in the campus.
- Good number of staff and students are using bicycles to the campus.

#### Plantation/Greening Drives

- Plantation programme has been taken up by the NSS unit for increasing the Green Cover in the village and special awareness programmes on plastic free environment in and around the village. Every year at the time of national level technical and cultural fest LAKSHYA, The institute NSS unit distributes the plants to the participants

#### Energy Conservation

Awareness among the students and staff on energy conservation is created by some sort of displays at appropriate places, Switching off all the electrical utilities, the buildings are fitted with glass/mesh windows for maximum utilization of natural light and free stream of air circulation.

### 7.1.8 Average percentage expenditure on green initiatives and waste management excluding salary component during the last five years

**Response:** 0.26

7.1.8.1 Total expenditure on green initiatives and waste management excluding salary component year-wise during the last five years(INR in Lakhs)

2016-17	2015-16	2014-15	2013-14	2012-13
2.5	3.63	2.33	4.75	3.62

File Description	Document
Details of expenditure on green initiatives and waste management during the last five years	<a href="#">View Document</a>

### 7.1.9 Differently abled (Divyangjan) Friendliness Resources available in the institution:

1. Physical facilities
2. Provision for lift
3. Ramp / Rails
4. Braille Software/facilities
5. Rest Rooms
6. Scribes for examination
7. Special skill development for differently abled students
8. Any other similar facility (Specify)

A. 7 and more of the above

B. At least 6 of the above

C. At least 4 of the above

D. At least 2 of the above

**Response:** C. At least 4 of the above

File Description	Document
Resources available in the institution for Divyangjan	<a href="#">View Document</a>
link to photos and videos of facilities for Divyangjan	<a href="#">View Document</a>

### 7.1.10 Number of Specific initiatives to address locational advantages and disadvantages during the last five years

**Response:** 2

7.1.10.1 Number of specific initiatives to address locational advantages and disadvantages year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
1	0	0	0	1

File Description	Document
Number of Specific initiatives to address locational advantages and disadvantages	<a href="#">View Document</a>

### 7.1.11 Number of initiatives taken to engage with and contribute to local community during the last five years (Not addressed elsewhere)

**Response: 2**

7.1.11.1 Number of initiatives taken to engage with and contribute to local community year-wise during the last five years

2016-17	2015-16	2014-15	2013-14	2012-13
1	0	0	0	1

File Description	Document
Report of the event	<a href="#">View Document</a>
Details of initiatives taken to engage with local community during the last five years	<a href="#">View Document</a>
Any additional information	<a href="#">View Document</a>

### 7.1.12

**Code of conduct handbook exists for students, teachers, governing body, administration including Vice Chancellor / Director / Principal /Officials and support staff**

**Response: Yes**

File Description	Document
URL to Handbook on code of conduct for students and teachers , manuals and brochures on human values and professional ethics	<a href="#">View Document</a>

### 7.1.13 Display of core values in the institution and on its website

**Response: Yes**

File Description	Document
Provide URL of website that displays core values	<a href="#">View Document</a>

**7.1.14 The institution plans and organizes appropriate activities to increase consciousness about national identities and symbols; Fundamental Duties and Rights of Indian citizens and other constitutional obligations**

**Response:** Yes

File Description	Document
Details of activities organized to increase consciousness about national identities and symbols	<a href="#">View Document</a>

**7.1.15 The institution offers a course on Human Values and professional ethics**

**Response:** Yes

File Description	Document
Provide link to Courses on Human Values and professional ethics on Institutional website	<a href="#">View Document</a>

**7.1.16 The institution functioning is as per professional code of prescribed / suggested by statutory bodies / regulatory authorities for different professions**

**Response:** Yes

File Description	Document
Any additional information	<a href="#">View Document</a>
Provide URL of supporting documents to prove institution functions as per professional code	<a href="#">View Document</a>

**7.1.17 Number of activities conducted for promotion of universal values (Truth, Righteous conduct, Love, Non-Violence and peace); national values, human values, national integration, communal harmony and social cohesion as well as for observance of fundamental duties during the last five years**

**Response:** 38

7.1.17.1 Number of activities conducted for promotion of universal values (Truth, Righteous conduct, Love, Non-Violence and peace); national values, human values, national integration, communal harmony and social cohesion as well as for observance of fundamental duties year-wise during the last five years



2016-17	2015-16	2014-15	2013-14	2012-13
14	10	6	3	5

File Description	Document
List of activities conducted for promotion of universal values	<a href="#">View Document</a>

### 7.1.18 Institution organizes national festivals and birth / death anniversaries of the great Indian personalities

#### Response:

Every year institute organises several national festivals and birth/death anniversaries of the great Indian personalities such as:

- Teachers Day
- Women's day celebrations
- Yoga Day
- Independence Day
- Republic Day
- Engineers Day
- Childrens Day
- Rashtriya Ekta Diwas etc.

The details of the activities of national festivals and birth / death anniversaries of the great Indian personalities organised by the institute are made available at institutional website :<http://www.lbrce.ac.in/nss/nssay16-17.html>

### 7.1.19 The institution maintains complete transparency in its financial, academic, administrative and auxiliary functions

#### Response:

#### *Financial System:*

Transparency in financial system is ensured through:

- Financial audit is done regularly by external agencies.
- Formulation of financial committee as per UGC guidelines
- Publication of complete audit report in the website

#### *Academic System*

- Academic Audit is done regularly by internal experts.
- Attendance is posted by the faculty in e-z school immediately after completion of class work. SMS is sent to the parents when student is absent.
- Every month attendance is communicated to the parents through letters.
- The complete academic status of any student can be obtained by the concerned parents through SMS

### ***Administrative Functions***

Transparency in administrative functions is ensured through:

- Well specified duties of every administrator
- Documented service rules made available in the website
- Well laid down procedures to be followed while discharging the regular duties

### ***Auxiliary functions of the Institute***

Auxiliary functions like conduct of workshops, training programs, seminars, FDPs, conferences, guest lectures etc., are strictly implemented through the following sequence of operations:

- Proposal by specific department
- Financial approval by the management/administration
- Conduct of the program
- Submission of the accounts
- Submission of the report
- Verification and recording of the proofs and publication in the website

The complete record of these operations is made available in the concerned department. Transparency is ensured through this process.

## **7.2 Best Practices**

### **7.2.1 Describe at least two institutional best practices (as per NAAC Format)**

**Response:**

**Best Practice – I:**

**1. Title of the Practice:** Monitor-Measure-Manage System (Faculty Performance Index)

**2. Goal** The dedicated effort of faculty members is always a prime factor for sustained betterment of institute. Accordingly all the parameters that can be monitored and measured regarding faculty members performance are identified and a pro active appraisal policy is adopted at our institute. A transparent faculty performance index measurement results in improvement of teacher performance.

**3. The Context** The measurable parameters of the faculty members performance are categorized into three

categories, student feedback, pass percentage in subjects taught and other contributions such as research, department level administration and college level administration etc. These are given weightages of 60%, 25% & 15% respectively. Feedback is taken twice in a semester and averaged.

**4. The Practice** All the faculty members in the department are divided into three categories (A,B,C) according to their performance index. A-Category(FPI>9) members are left to the self appraisal. B-Category(9

**5. Evidence of Success:** Measure- Monitor -Manage system inculcates the healthy competition among the faculty. The faculty comes under C-Category(FPI<8) has been reduced after implementation of MMS enables the improvement of Teaching- Learning Process.

#### **6. Problems Encountered and Resources Required:**

More number of teacher training programmes are required in order to reduce the C-Category faculty.

#### **Best Practice-II**

##### **1. Title of the Practice:** Employability Enhancement

**2. Goal:** Every Institution's track record with respect to placements is always a parameter strongly considered by Parents before seeking the admission. Accordingly our institute has taken the task of employability enhancement right from the inception and specific practises are implemented in our institute. The objective is to make our students employable immediately after graduation.

**3. The Context:** It is necessary that the student attains requisite knowledge in his/her branch of engineering as well as posses adequate soft skills and programming ability to become employable. We focused on all these three aspects to achieve this goal.

**4. The Practice:** To impart the requisite technical knowledge the following practices are adopted:

The important technical aspects are emphasized by every teacher in the class room.

Guest lectures and training programs are arranged for a good number of core subjects in every branch of engineering.

Certification programs and training are arranged for specific subjects. For providing adequate soft skills the following methods are adopted:

A separate department for Communication and Soft Skills has been established with suitable and experienced experts.

The centre has designed specific practices spread through the last four semesters as part of the curriculum.

Chosen training programs by external experts are arranged.

For providing adequate programming ability a number of programming exercises are conducted by the internal faculty. Certification programs by external agencies are also arranged.

**5. Evidence of Success:** Number of students placed in the A.Y 2012-13 is 167 where as it is improved in the A.Y 2013- 14 is 246.

**6. Problems Encountered and Resources Required:** The expected level of focus by the students on the arranged training programs is not attained due to intellectual capabilities of students and economic reasons as well as availability of time.

The Communication and Soft Skills department needs to be strengthened along with effective teaching learning process.

More number of guest lectures by industrial experts are to be conducted.

### 7.3 Institutional Distinctiveness

**7.3.1 Describe/Explain the performance of the institution in one area distinctive to its vision, priority and thrust**

**Response:**

To create the technologically vibrant ambience in the college, the following actions have been taken.

LBRCE has been started with a modest intake of 180 students across four engineering programs in B.Tech, namely ECE, CSE, EEE and Mechanical Engineering. LBRCE, in less than 2 decades, it has grown into an institution of gigantic proportions with massive infrastructure, besides the multitude of students, faculty & staff. At present, eight (08) B.Tech programmes CSE, IT, ECE, EEE, Mechanical Engineering, CE, Aerospace Engineering & EIE, four (04) M.Tech programmes in Computer Science and Engineering, Thermal Engineering, Power Electronics and Drives & Systems and Signal Processing, in addition to MBA and MCA programmes are being offered.

Curriculum design has been made in 2010, 2011, 2014 and 2017 with prime focus on industry requirements, latest technology. LBRCE has got an “Autonomous status” in the year 2010 and has made changes in the curriculum resulting in R10, R11, R14 and R17 regulations. The main focuses were made on industry requirements, latest technologies and seriously attempted bridging the gap between academia and industry in all programs offered. Stake holders of the institute (Industry personal, Alumni, Employers) and senior faculty members from the institute as well as the University faculty nominee are the part of Board of Study to design the new curriculum every time. The same procedure with experts from IITs in BoS is continuing to make the student industry ready.

In the view of institute’s vision, individual departments are encouraged to impart the new technologies in the respective fields of engineering to all the students. At the same time there are various innovative labs that have been initiated in the respective departments.

The following labs/centres also help to provide scientific temper and cultivate research aptitude in the faculty as well as students:

- National MEMS Design Center in association with IISc under NPMASS
- E YANTRA LAB in association with IITB, Bombay
- NI LabVIEW-Center of Excellence
- Green Energy Technology Centre(GETC)
- CISCO Networking Academy
- ANSYS Skill Development Centre

Centre for Innovation, Incubation and Entrepreneurship (CIIE) has been started at LBRCE recently. The objectives of this centre are to

- Create a large talent pool through Modular Employability Skills in various technical and managerial domains for ensuring quality in delivery
- Organize domain-specific awareness and training modules at regular intervals to cater to the needs of the youth from diverse backgrounds
- Encourage students on idea generation, incubation and prototype design.
- To provide a platform for exhibiting innovative ideas, incubation of ideas and prototypes etc.,

LBRCE recognised as NPTEL local chapter and rating has been increased from grade A to AA with active participation from faculty and students.

## 5. CONCLUSION

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### **Additional Information :**

We have submitted criteria wise information as per the specifications of NAAC. However I wish to bring the following for your kind notice.

- Choice based credit system has already been implemented in R17 regulations with suitable curriculum modifications at LBRCE. We presume the choice component is not very much sufficient at present and accordingly we have to make required changes in the upcoming regulations. In this regard the spade work has been started.
- With a view to improve teaching learning process efforts are being put in to arrange for technical teacher trainings from authorized agency like NITTTR (National Institute of Technical Teacher Training and Research).
- With a view to improve learning process of students, efforts are in progress to increase the learning resources in terms of NPTEL lectures, MOOCs lectures in all branches of engineering. Certification courses are made mandatory for all students. Number of activities through professional bodies, student associations is being increased.
- Student participation in Research activities, Co-curricular activities as well as extra-curricular activities is given top priority.
- Research and publication activity by the faculty members is being encouraged very much.

We are trying our best to follow as many best practices as possible at LBRCE to meet the required level of internal quality.

### **Concluding Remarks :**

At LBRCE we have prioritized the following for your kind consideration.

Providing a vibrant academic ambience is our first priority and this is fulfilled through the implementation of industry suitable curriculum with timely changes. Up-to-date delivery methods in the class room, adequate self-learning resources, timely training for faculty, and certification programs for students and some such measures are considered as means for this purpose.

Offering wide flexibility in learning process is not possible with somewhat rigid course structures. However, flexibility level in courses offered at LBRCE is being attempted to improve to further levels.

At present we have established CISCO networking academy, LAB-View academy of National Instruments, IBM Centre and ANSYS Skill Development Centre at our institute. Improved industry-institution interaction is being attempted through inviting industry experts for guest lectures, industrial training of our students, internships and collaborative projects as well as many other such activities.

R&D activity is improved considerably at LBRCE through formulation of research groups and facilitating specialized labs.

In view of improving employability level of our students we have given very high priority for skill development

programs integrated with curriculum as far as possible and with special arrangements during summer vacation.

Personality development programs arranged at LBRCE inculcate an ability to shoulder many social responsibilities. Entrepreneur development, incubation centres, management skill development methods are also in our priority list.

We are striving our best to improve continuously in our efforts of imparting quality technical education at our institute.

NAAC