RajaRajeswari College of Engineering

(Approved by AICTE , New Delhi , Govt.of Karnataka & Affiliated to Visvesvaraya Technological University, Belgaum)

Sponsored by: MOOGAMBIGAI CHARITABLE AND EDUCATIONAL TRUST

Ref:- RRCE/NAAC-AQAR/2017-18/036-B **Date:- 16/10/2017**

To,
Dr. Sujatha P. Shandbhag
Deputy Advisor,
National Assessment and Accreditation Council
Post Box No.1075,
Nagarabhavi
Bengaluru-560072.

Respected Madam,

Sub:- Submission of Annual Quality Assurance Report (AQAR) of RajaRajeswari College of Engineering, Bengaluru, Karnataka for the year 2016-17- Reg.

Ref:- 1. NAAC Accreditation letter no: NAAC/WH/Cert-ANA/EC (19th SC)/37.1/2017 Dt: 27/01/2017 (Validity up to: 01/12/2021)
2. Our Institution Track ID: KAC0GN23596

With reference to the above subject and reference cited, we submit herewith the Annual Quality Assurance Report (AQAR) of RajaRajeswari College of Engineering, Bengaluru, Karnataka in the prescribed format as desired by NAAC for the year 2016-17. Also, the same AQAR report has been uploaded into the institution portal through web link as:

http://www.rrce.org/rrce/wp-content/uploads/2017/08/AQAR-Report-Updated-Final-v2.pdf

This is submitted for your kind information and oblige.

Thanking you Madam,

Yours Faithfully

Principal

Principal
(Dr. Balakrishna)
RAJARAJESWARI
COLLEGE OF ENGINEERING
Ramohalli Cross, Bengaluru-74

Campus
#14, Ramohalli Cross, Kumbalgodu, Mysore Road
Bengaluru - 560 074
Ph : 080 - 28437124 / 28437375 Fax : 080 - 28437373
E-mail : info@rrce.org, enquiry@rrce.org
www.rrce.org

RajaRajeswari College of Engineering

AFFILIATED TO VTU, BELGAUM, APPROVED BY AICTE, NEW DELHI & GOVT. OF KARNATAKA

NAAC Accreditation (Cycle 01)
Vide letter no: NAAC/WH/Cert-ANA/EC (19th SC)/37.1/2017
Dt: 27/01/2017
Valid up to: 01/12/2021

Institution Track ID: KAC0GN23596

ANNUAL QUALITY ASSURANCE REPORT (AQAR)

Submitted to

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

Bangalore – 560 072

By

RAJARAJESWARI COLLEGE OF ENGINEERING

Bangalore – 560 074

For the Academic year 2016 - 17
(July 2016 - June 2017)

CONTENTS

The Annual Quality Assurance Report (AQAR) of the IQAC

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

Part – A

1. Details of the Institution

1.1 Name of the Institution	RajaRajeswari College of Engineering
1.2 Address Line 1	#14, Ramohalli Cross, Mysuru Road,
Address Line 2	Kumbalagodu, Bangaluru-560074.
City/Town	Bengaluru
State	Karnataka
Pin Code	560074
Institution e-mail address	principal@rrce.org office@rrce.org
Contact Nos.	080-28437124 080-28437598
Name of the Head of the Institution:	Dr. R. Balakrishna
Tel. No. with STD Code:	080-28437375
Mobile:	9900028023

Name of the IQAC Coordinator:	Prof. Thanuj Kumar M. Dept. of Mechanical Engineering
Mobile:	9980633612
IQAC e-mail address:	iqacrrce@gmail.com
1.3 **NAAC Track ID** *(For ex. MHCOGN 18879)*	KACOGN23596
1.4 **NAAC Executive Committee No. & Date:** *(For Example, EC/32/A&A/143 dated 3-5-2004. This EC no. is available in the right corner- bottom of your institution's Accreditation Certificate)*	EC (SC)/19/A&A/37.1 Dated:02/12/2016
1.5 Website address:	www.rrce.org
Web-link of the AQAR:	http://www.rrce.org/naac/AQAR 2016-17.pdf

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

1.6 Accreditation Details

Sl. No.	Cycle	Grade	CGPA	Year of Accreditation	Validity Period
1	1st Cycle	A	3.37	02/12/2016	01/12/2021
2	2nd Cycle	-	-	-	-
3	3rd Cycle	-	-	-	-
4	4th Cycle	-	-	-	-

1.7 Date of Establishment of IQAC: DD/MM/YYYY 01/08/2015

1.8 AQAR for the year *(for example 2010-11)* 2016-17

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

i. AQAR Not applicable – Institute accredited by NAAC during academic year 2016 only (DD/MM/YYYY)
ii. AQAR _____ (DD/MM/YYYY)
iii. AQAR _____ (DD/MM/YYYY)
iv. AQAR _____ (DD/MM/YYYY)

1.10 Institutional Status

University State ☐ Central ☐ Deemed ☐ Private ☐

Affiliated College Yes ☑ No ☐

Constituent College Yes ☐ No ☐

Autonomous college of UGC Yes ☐ No ☐

Regulatory Agency approved Institution Yes ☑ No ☐

(e.g. AICTE, BCI, MCI, PCI, NCI)

Type of Institution Co-education ☑ Men ☐ Women ☐

Urban Rural ☑ Tribal ☐ ☐

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

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

1.11 Type of Faculty/Programme

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

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

Others (Specify) ☐

1.12 Name of the Affiliating University *(for the Colleges)* Visvesvaraya Technological University (VTU), Belagavi, Karnataka.

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

Autonomy by State/Central Govt. / University	University		
University with Potential for Excellence		UGC-CPE	
DST Star Scheme		UGC-CE	
UGC-Special Assistance Programme		DST-FIST	
UGC-Innovative PG programmes		Any other (*Specify*)	
UGC-COP Programmes			

2. IQAC Composition and Activities

2.1 No. of Teachers	16
2.2 No. of Administrative/Technical staff	1
2.3 No. of students	6
2.4 No. of Management representatives	2
2.5 No. of Alumni	1
2.6 No. of any other stakeholder and Community representatives	1
2.7 No. of Employers/ Industrialists	1
2.8 No. of other External Experts	1
2.9 Total No. of members	29
2.10 No. of IQAC meetings held	15

2.11 No. of meetings with various stakeholders: No. 22 Faculty 8

Non-Teaching Staff Students 4 Alumni 10 Others 2

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

If yes, mention the amount

2.13Seminars and Conferences (only quality related)

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

Total Nos. 5 International 1 National 2 State 1 Institution Level 10

(ii) Themes

2.14 Significant Activities and contributions made by IQAC

Significant activities by the IQAC has been carried out by conducting activities like

- Yoga day,
- Cultural fest,
- Sports,
- Innovative day,
- Creative day,
- Blood donation camp,
- Tree plantation under NSS,
- Seminars at department level,
- International and National conferences were held, etc.

2.15 Plan of Action by IQAC/Outcome

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

Plan of Action	Achievements
1. To increase in research publications in reputed journals. 2. Planned to increase MOU's with industries and reputed institutions. 3. Increase placement activities in all the departments 4. Enhance Industry Institution Interactions	1. Research publications have improved 2. MOU's are under progress and action plan is reviewed. 3. Conducting pre-placement training to the students from 2nd year onwards and allowing students to talk up inhouse coaching for IAS, IES, etc. 4. Industry Institution Interactions like industrial visits, technical talks, internships, etc are being conducted.

Attach the Academic Calendar of the year as Annexure-II ☑ ☐

2.16 Whether the AQAR was placed in statutory body Yes ✓ No

Management ☑ Syndicate ☐ any other body ☐

Provide the details of the action taken

The board of governors were made known about the IQAC activities and given their approval in this regard.

Part – B

CRITERION – I

1. CURRICULAR ASPECTS

1.1 Details about Academic Programmes

Level of the Programme	Number of existing Programmes	Number of programmes added during the year	Number of self-financing programmes	Number of value added / Career Oriented programmes
PhD	07	00	07	01
PG	07	00	07	14
UG	07	01	07	43
PG Diploma				
Advanced Diploma				
Diploma				
Certificate				
Others				
Total	21	00	21	58

Interdisciplinary				
Innovative				

✓

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

(ii) Pattern of programmes:

Pattern	Number of programmes
Semester	✓ (All programs)
Trimester	
Annual	

1.3 Feedback from stakeholders* Alumni [✓] Parents [✓] Employers [✓] Students [✓]

(On all aspects)

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

Note: Some feedback taken online and some feedback are manual.

****Analysis of the feedback in the Annexure III***

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

No, affiliated to University, 4 years once revised

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

Telecommunication Engineering was introduced for the academic year 2016-17

CRITERION – II

2. TEACHING, LEARNING AND EVALUATION

2.1 Total No. of permanent faculty

Total	Asst. Professors	Associate Professors	Professors	Others/visiting
162	**120**	**23**	**19**	**Nil**

2.2 No. of permanent faculty with Ph.D. **25**

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

Asst. Professors		Associate Professors		Professors		Others		Total	
R	V	R	V	R	V	R	V	R	V
15	**28**	**4**	**5**	**2**	**0**	**11**	**11**	**32**	**44**

2.4 No. of Guest and Visiting faculty and Temporary faculty | Nil | 21 | Nil |

2.5 Faculty participation in conferences and symposia:

No. of Faculty	International level	National level	State level
Attended	35	55	Nil
Presented papers	25	51	Nil
Resource Persons	Nil	03	Nil

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

- Animation Based Teaching
- Smart Classes
- Quiz
- Power Point Presentation
- Technical Talks by External Experts
- Hands-On Training at Laboratory
- Video Presentations

2.7 Total No. of actual teaching days during this academic year (2016-17) 170 Days

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

VTU, Regulations

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

0	0	3

2.10 Average percentage of attendance of students

90

2.11 Course/Programme wise distribution of pass percentage:

CSE

Title of the Programme	Total no. of students appeared	Division				
		Distinction	I	II	III	Pass %
3rd	127	23.62	22.83	0.07	43.31	56.69
5th	85	10.58	44.7	12.94	31.34	68.66
7th	79	16.45	41.77	21.51	20.26	79.74

ISE

Title of the Programme	Total no. of students appeared	Division				
		Distinction	I	II	III	Pass %
3rd	47	15	28	13	44.69	55.31
5th	38	13	47.4	18.4	21.06	78.94
7th	44	7	64	22.7	6.82	93.18

CV

Title of the Programme	Total no. of students appeared	Division				
		Distinction	I	II	III	Pass %
3rd	140	0.05	17.14	11.42	55.72	44.28
5th	105	15.23	27.61	15.23	41.91	58.09
7th	55	25.45	49.09	12.72	14.90	85.10

EEE

Title of the Programme	Total no. of students appeared	Division				
		Distinction	I	II	III	Pass %
3rd	75	2	5	7	81.33	18.66
5th	43	9.3	20.93	18.60	51.17	48.83
7th	54	11.11	42.59	24.07	22.22	75.92

ME

Title of the Programme	Total no. of students appeared	Division				
		Distinction	I	II	III	Pass %
3rd	136	2.96	6.6	12.5	76.48	23.52
5th	68	4.20	22.68	26.05	47	53
7th	65	10.76	32.30	35.38	21.56	78.44

ECE

Title of the Programme	Total no. of students appeared	Division				
		Distinction	I	II	III	Pass %
3rd	117	18	20	2	59.83	40.17
5th	98	19	33	23	74.49	75.51
7th	93	38	32	20	9.68	90.32

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

IQAC will monitor and identify the gaps in the Teaching and Learning Process and advise the correction to mechanize & monitor its implementation.

2.13 Initiatives undertaken towards faculty development

Faculty / Staff Development Programmes	*Number of faculty benefitted*
Refresher courses	254
UGC – Faculty Improvement Programme	4
HRD Programmes	-
Orientation Programmes	421
Faculty exchange Programme	N-
Staff training conducted by the university	5
Staff training conducted by other institutions	14
Summer / Winter schools, Workshops, etc.	39
Others	-

2.14 Details of Administrative and Technical staff

Category	Number of Permanent Employees	Number of Vacant Positions	Number of permanent positions filled during the Year	Number of positions filled temporarily
Administrative Staff	23	2	23	2
Technical Staff	57	7	3	4

CRITERION – III

3. RESEARCH, CONSULTANCY AND EXTENSION

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

The IQAC encourages research and promote the research climate in the institution by providing different facilities to the faculty members and students, some of them are as follows:

1) The institute in association with IQAC regularly organizes Conferences, Research Methodology Workshop, Faculty Development programs and Academic forums to provide in-house research platform to all the faculty members.
2) As quality policy, all the regular faculty members can be nominated and sponsored by the institute, for one international conference/FDP, which will be held outside the country and two conferences/FDP (national or international), which will be held in India during the academic year. The sponsorship includes registration fees, Traveling and Dearness.

3.2 Details regarding major projects

	Completed	Ongoing	Sanctioned	Submitted
Number	7	1	-	-
Outlay in Rs. Lakhs	0.44	30	30.44	-

3.3 Details regarding minor projects

	Completed	Ongoing	Sanctioned	Submitted
Number	-	58	-	-
Outlay in Rs. Lakhs	-	14.26	14.26	-

3.4 Details on research publications

	International	National	Others
Peer Review Journals	103	6	0
Non-Peer Review Journals	0	0	0
e-Journals	7	0	0
Conference proceedings	25	70	0

3.5 Details on Impact factor of publications:

Range [ ] Average [ ] h-index [Yes] Nos. in SCOPUS [Yes]

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

Nature of the Project	Duration Year	Name of the funding Agency	Total grant Sanctioned (Lakhs)	Received (Lakhs)
Major projects	3	VGST	30	30
Minor Projects				
Interdisciplinary Projects				
Industry sponsored				
Projects sponsored by the University/ College	2yr	RRCE	14.26	14.26
Students research projects *(other than compulsory by the University)*	1year	KCST	0.44	0.44
Any other(Specify)	workshop	AICTE	1	1
Total			45.7	45.7

3.7 No. of books published i) With ISBN No. [ ] Chapters in Edited Books [1]

ii) Without ISBN No. [ ]

3.8 No. of University Departments receiving funds from

UGC-SAP [---] CAS [---] DST-FIST [---]

DPE [---] DBT Scheme/funds [---]

[---] [---] [---]

3.9 For colleges Autonomy CPE DBT Star Scheme

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

3.10 Revenue generated through consultancy [Yes, Rs.45 Lakhs (TCS) for 2016-17]

3.11 No. of conferences

Organized by the Institution

Level	International	National	State	University	College
Number	NA	5			
Sponsoring agencies					

3.12 No. of faculty served as experts, chairpersons or resource persons 15

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

3.14 No. of linkages created during this year: NA ---

3.15 Total budget for research for current year in lakhs:

From Funding agency 0.44 Lakhs From Management of University/College 50 Lakhs

Total 5,44,000 Lakhs

3.16 No. of patents received this year

Type of Patent		Number
National	Applied	--
	Granted	--
International	Applied	--
	Granted	--
Commercialized	Applied	--
	Granted	--

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

Total	International	National	State	University	Dist.	College
NA	--	--	--	--	--	--

3.18 No. of faculty from the department who are Ph. D. Guides 13

and students registered under them 40

3.19 No. of Ph.D. awarded by faculty from the department 1

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

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

3.21 No. of students Participated in NSS events:

University level 100 State level --

National level -- International level --

3.22 No. of students participated in NCC events:

University level -- State level --

National level -- International level --

3.23 No. of Awards won in NSS:

University level --- State level --

National level --- International level --

3.24 No. of Awards won in NCC:

University level -- State level --

National level -- International level --

3.25 No. of Extension activities organized

University forum -- College forum --

NCC -- NSS 3 Any other 1

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

- All Members (Students) visited to (Orphanage home) it was an enjoyable day to spent time by bringing smile to orphan kids. Department has donated required articles and food items of Rs.10,000/- on 26th Jan. 2016.

CRITERION – IV
4. INFRASTRUCTURE AND LEARNING RESOURCES

4.1 Details of increase in infrastructure facilities:

Facilities	Existing	Newly created	Source of Fund	Total
Campus area	36855sq-m	Nil		36855sq-m
Class rooms	54No	12No		66No
Laboratories	52No	04No		56No
Seminar Halls	09 No	00		09No
No. of important equipment's purchased (≥ 1-0 lakh) during the current year.				
Value of the equipment purchased during the year (Rs. in Lakhs)				
Others				

4.2 Computerization of administration and library

Yes New gen lib soft with RF ID

4.3 Library services:

	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books	30013	49,00,149	1085	4,50,000	31098	53,50,149
Reference Books	5949	18,02,600	504	60,000	6453	18,62,600
e-Books						
Journals	103	2,04,170	-	-	103	2,04,170
e-Journals	08	4,23,000	-	-	08	52,300
Digital Database						
CD & Video						
Others (specify)						

4.4 Technology up gradation (overall)

	Total Computers	Computer Labs	Internet	Browsing Centers	Computer Centers	Office	Departments	Others
Existing	824	25	60Mbps	01	01	01	8	-
Added	-	-	40Mbps	-	-	-	1	-
Total	824	25	100Mbps	01	01	01	9	-

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

ERP software – www.rrce.org/campus.uno

4.6 Amount spent on maintenance in lakhs:

i) ICT	2,30,633
ii) Campus Infrastructure and facilities	1,27,88,066
iii) Equipment's	72,42,370
iv) Others	83,65,681
Total:	2,86,26,750

CRITERION – V
5. STUDENT SUPPORT AND PROGRESSION

5.1 Contribution of IQAC in enhancing awareness about Student Support Services.

IQAC has been discussing with students, staff and alumna about feedback of existing facilities, suggestions etc. and communicates to Heads.

5.2 Efforts made by the institution for tracking the progression.

IQAC has been entrusted to monitor progress of initiatives by the College.

5.3 (a) Total Number of students

UG	PG	Ph. D.	Others
2247	50	61	-

(b) No. of students outside the state: 36

(c) No. of international students: Nil

Men	No	%
	1288	57

Women	No	%
	959	43

Last Year (2015-16)						This Year (2016-17)					
General	SC	ST	OBC	Physically Challenged	Total	General	SC	ST	OBC	Physically Challenged	Total
1009	95	35	682	0	1821	1360	101	36	799	0	2296

Demand ratio 1.6 Dropout 0.3%

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

IAS Coaching for Students

No. of student's beneficiaries: 44

5.5 No. of students qualified in these examinations

NET [-] SET/SLET [-] GATE [1] CAT [-]

IAS/IPS etc [-] State PSC [-] UPSC [-] Others [-]

5.6 Details of student counseling and career guidance

College has a mechanism for counselling and guidance at both department and inter-department level and the impact has been very encouraging evident by student satisfaction and achievements.

Externally: FACE, BIZOTIC, Internally: Career Guidance Classes

No. of students benefitted [400]

5.7 Details of campus placement

On campus		*Off Campus*	
Number of Organizations Visited	**Number of Students Participated**	**Number of Students Placed**	**Number of Students Placed**
32	4800	195	42

5.8 Details of gender sensitization programmes

WE and SHE committee given awareness on gender sensitization

5.9 Students Activities

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

State/ University level [90] National level [1] International level [-]

No. of students participated in cultural events

State/ University level [20] National level [-] International level [-]

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

Sports: State/ University level [1] National level [-] International level [-]

Cultural: State/ University level [-] National level [-] International level [-]

5.10 Scholarships and Financial Support

	Number of students	Amount
Financial support from institution	162	64,14,500
Financial support from government	996+	2,25,13,415
Financial support from other sources	03	1,24,225
Number of students who received International/ National recognitions	-	-

5.11 Student organized / initiatives

Fairs: State/ University level [-] National level [1] International level [-]

Exhibition: State/ University level [-] National level [-] International level [-]

5.12 No. of social initiatives undertaken by the students [3]

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

CRITERION – VI

6. GOVERNANCE, LEADERSHIP AND MANAGEMENT

6.1 State the Vision and Mission of the institution

VISION

To emerge as one of the top 10 technical and management institution in the state of Karnataka by 2018.

MISSION

To consistently strive for academic excellence to become a leading institution in the field of engineering, management and research to produce competent and ethically sound manpower for the benefit of industry, society, nation and the global environment.

6.2 Does the Institution has a management Information System

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

6.3.1 Curriculum Development

The institution is affiliated to Visvesvaraya Technical University.

The curriculum will be framed by the University.

6.3.2 Teaching and Learning

We are using LCD, ICT tools to enhance the quality of teaching and learning.

6.3.3 Examination and Evaluation

The institution will follow the rules and regulations framed by the University to conduct examination and Evaluation.

6.3.4 Research and Development

New research scholars have registered in various departments of the institution and they are carrying out the research work. The registered research scholars have published technical papers related to their research work in various national and international conferences.

6.3.5 Library, ICT and physical infrastructure / instrumentation

The volume of new journal, conference and curriculum related books are added to library.

6.3.6 Human Resource Management

6.3.7 Faculty and Staff recruitment

As per AICTE norms the technical and non-technical teaching faculties are recruited.

6.3.8 Industry Interaction / Collaboration

36 MOU's are signed with various departments of the institution to collaborate with industry to bridge the gap between the institution and industry.

6.3.9 Admission of Students

Teaching	199
Non-teaching	82
Students	660

6.4 Welfare schemes for

The institution has student welfare scheme and faculty welfare schemes.

6.5 Total corpus fund generated

For the **CAY 2016-2017**

Corpus fund generated: Total = **95,500/-** (in Rupees)

Funded Projects – KSCST Student Projects

Academic year 2016-17

Sl No.	Department	Title of the project	Name of guide	Name of the student	Sanctioned amount (Rupees)
1	Computer science and engineering	Unmanned under water vehicle using LIFI technology for communication	Dr. Usha S	Mr. Hemanko and team	**5,000/-**
2	Mechanical Engineering	Experimental investigation of single cylinder four stroke diesel engine using vegetables oil of different proportions with diesel	Prof. N Sreenivasulu Reddy, Dr. Pruthviraju R D	Mr. Akash S J and team	**8,500/-**
3	Mechanical Engineering	Experimental investigation of receiver tube of solar parabolic trough collector with twisted tape inserts	Prof. N Sreenivasulu Reddy, Prof. Wadekar B D	Mr. Prashanth Y and team	**7,000/-**

4	Electronics and communication engineering	Development of a system for estimation of NPK, pH in soil and disease detection in soil and leaves.	Prof. Santoshchavan	Ms. Spoorthi H R and team	**6,500/-**
5	Electronics and communication engineering	Smart security solution for women using IOT	Prof. Saroja Maralabhavi	Ms. Harshitha N and team	**6,500/-**
6	Electrical and Electronics Engineering	De-frothing of lake water using solar power	Prof. Pavan Kumar K R	Ms. Pooja S B and team	**7,500/-**
7	Information science and engineering	Application of internet of things in automated irrigation system (3 Phase)	Prof. Prasad A Y	Ms. Ashwini R and team	**4,500/-**
8	Telecommunication Engineering	"One-week hands on workshop on advances in communication networks using network simulator – NS3"	Dr. Rangaiah	AICTE	**50,000/-** (1st Installment)
Total					**45,500/-**

6.6 Whether annual financial audit has been done ✓ Yes No

6.7 Whether Academic and Administrative Audit (AAA) have been done? Yes.

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	Yes	VTU-Local Enquiry Committee & ISO	Yes	IQAC
Administrative	Yes	ISO	Yes	IQAC

The academic and administrative audit has been done.

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

For UG Programmes Yes ✓ No

Yes No .

For PG Programmes Yes ✓ No

Yes.

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

The institution is affiliated to University CCTV for question paper downloading.

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

The institution is affiliated to the University.

6.11 Activities and support from the Alumni Association

Alumnus of the institution is conducting the number of workshops for enhancing the technical skill of the students based on their domain expertise.

6.12 Activities and support from the Parent – Teacher Association

Each department in the institution conducts parent teachers meeting thrice in a semester to obtain the feedback of their Ward's to improve the quality of education.

6.13 Development programmes for support staff

The support staffs are sent to various training programs to improve their skills related to domain in which they work.

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

The institution is using ERP software.

CRITERION – VII

7. INNOVATIONS AND BEST PRACTICES

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

Department of ECE

Co-curricular Events: 2016-17 Odd Semester (August 2016 to January 2017)

Events		Title	Duration	Date
Workshop	1	**"Robo Workshop 2K16"** **By Alumni(2016)** Mr. Harish Dayalan, Embedded Developer	2 Days	19th -20th September 2016
	2	**"Concepts to Program Using C"** **ByProf.Hayavadan,** Department of MCA,RRCE,Bengaluru	1Day	1st October 2016
	3	**OFMW-Business Process Execution Language** **By Alumni(2010)** Mr.NidhiGangadhar Sr. Software Consultant, Capgemini India Pvt. Ltd	1 Day	8th October 2016
	4	**"Proteus Simulation And(PCB Design"** **By** Mentoring Team(7th Sem Students) Kiran N B Sachin S PavanSimha K Vijayalakshmi A	2 Days	21st - 22nd October 2016
	5	**"Concepts to Program Using C"** **By** Prof.Hayavadan, Department of MCA,RRCE,Bengaluru	1 Day	5th November 2016
Industrial Visit	1	**DD Chandana:5th B Students**	1Day	24th October 2016
	2	**DD Chandana:5th A Students**	1Day	25th October 2016
Expert Talk	1	**"Product design from concepts"** By . Lakshmi Narasimha I.N., Business development Manager-Technical, hemaZen Technologies Pvt. Ltd., Bengaluru	2Hours	27th August,2016

Co-curricular Events: 2016-17 Even Semesters (February 2016 to June 2017

Events		Title	Duration	Date
Workshop	1	**"Design Thinking Innovation and Implementation Using INTEL Edison Boards"** **By** i) Mr. Rishi GauravBatnagar: Engineer, Strategy and innovation, Target ii) ii) Mr.M.ArunMagesh Engineer, Embedded and IOT security	2 Days	25th and 26th February 2017
	2	**"Touch of PLC in real world applications"** **By** Mr.Suhas, Esteemed Alumni 2010, Assistant Professor, Department of ECE Mechatronics, Govt Tool Room and Training Centre, Banglore.	1 Day	10th March 2017
Expert / Technical Talk	1	**"Object Oriented Programming using JAVA- Need & Scope"** **By** Mr.Venkata Reddy P S, Technical Lead, Accenture, Bangalore	2 Hours	18thFebruary 2017
	2	**"Hardware Board Level Design Flow in Industry** **By** Mr. Lakshmi NarasimhaI.N.,Technical Head, SchemaZen Technologies Pvt. Ltd., Bangalore	2 Hours	21stFebruary 2017
Expert / Technical Talk	3	**"Career Opportunities in Semiconductor Industry and required preparedness for Freshers"** **By** Mr.ShripadAnnigeri, Entrepreneur and Ex-Director of MegaChips Bangalore	2 Hours	28th February 2017

	4	**"Big Data and IOT"** **By** Mr.SangameshGugwad Head Of Engineering , British Telecoms e- Serv India Pvt Ltd Bangalore	2 Hours	25th March,2017
	5	**"Career Guidance and Studied abroad "** **By** Mr.Anshul Mishra Operations Manager , Jamboree Education Pvt.Ltd , Bangalore-Ahmedabad	2 Hours	9th May 2017
Industrial Visit	1	**ISRO**	1Day	15th March,2017
	2	**TCS**	1Day	18th May 2017
Induction Program	1	**"Real time Hardware industry projects, Skill sets &Job Opportunities** **How to build resume for Hardware Jobs"** By Mr.Girish , Design Consultant,Winglobal Tech, Bangalore	2 Hours	4th March 2017
	2	**"Outcome based Education"** By Dr.Jayarekha P, Professor, BMSCE,Bangalore	2 Hours	27th March 2017
Symposium	1	**Electro Blitz Season 2**	2 Days	17th-18th April 2017
National Conference	1	**NATIONAL CONFERENCE** **on** **"VLSI, COMMUNICATION AND SIGNAL PROCESSING (NCVCS-2017)"**	2 Days	16th -17th May, 2017
Project Exhibition	1	**Intra Departmental Project Exhibition**	1 Day	30th May 2017

Department of ME

Sl. No.	Event Name	Event Duration	Target Participants	Outcome of the Programme	Resource Persons
1	Faculty Development Programme	14th June 2016 to 18th June 2016 (5 Days)	All Mechanical Engineering Faculty Members and Technical Staffs	The Mechanical Engineering Department conducted 5 Days Faculty Development Program from 14th to 18th June 2016 at Henry Ford Seminar Hall on various Research oriented topics and also had hands on experience in the Practical Sessions as well as LATEX Software which were very resourceful for all the Mechanical Engineering Faculties as well as Technical staff Members	Dr.R.Shanakara Reddy Prof. & HOD Dr. M.N. Shankar Professor Sreenivasalu Reddy Asso.Professor ThanujKumar.M Asso.Professor Shivalingaih Asst. Professor Radhakrishna.R.K Asst.Professor
2	Three days National Workshop on Altair Workshop	12th November 2016	Students	Hands on Training on CAD modelling and Meshing	Mr.Sujith S Pillai Senior Trainer Head, Altair Hyperworks
3	Five Days Faculty Development Program on "Altair Hyper Works.	From 17th to 21st January. 2017	Totally 55 participants from various engineering colleges, industries and research scholars were participated	To provide a platform for the Faculties, Research Scholars of various Institutions and Industry Expert to learn FEA with hands on experience on Hyper Works.	Mr SudhakarVelu, Principal Engineer, Terex India Pvt, ltd.

4	One Day Faculty Development Program on "RAPID PROTOTYPING and 3-D PRINTING"	From 24th January 2017	Academicians, Research Scholars, Industry Experts are invited to the FDP.	To provide a platform for the Faculties, Research Scholars of various Institutions and Industry Expert to learn For Rapid Prototyping and 3-D Printing.	Mr. Guru Murthy HOPE Technologies Pvt. Limited
5	"Technical Seminar" on "Futuristic Bearings"	28th February, 2017 Tuesday	6th Semester students of Mechanical Department	Students gained the knowledge and able to understand the revolutionary intelligent bearings technology will underpin the creation of intelligent machines.	Dr. V. Arun Kumar Ex. Additional Director NAL
6	"Industrial Visit " to Govt. Tool Room & Training Centre	10th March 2017, Friday.	4 th Semester ME 1	Outcome of the program /visit: Students gained the knowledge about Latest CNC machining, operations, & techniques.	Mrs.Deepti.H Asst.Prof. Mr.Ravikiran.H.R Asst.Prof.
7	One day Technical seminar on emerging trends in Advanced Materials	14th March 2017 Tuesday	6th & 4th Semester students of Mechanical Engineering Department	Students gained the knowledge and able to understand the advance materials and their properties, such materials like graphena, cellular sponge material etc. along with this the fabrication of above materials by using innovative casting with	Dr.H.B. Niranjan

				magnetic particles with a new mould material techniques and also students are understood kinetic spray technique coating method	
8	One day technical seminar on Nano materials and Nano composites	14th March 2017 Tuesday	6th & 4th Semester students of Mechanical Engineering Departmen	Students gained the knowledge and able to understand the nano materials and nano composites. Explained the structure and production of carbon nano tubes by arc discharge metals. Explained the characterization of carbon nano tubes and purification by micro filtration techquies. Explained powder metallurgy to in processing reinforced aluminium carbon nano composites.	Dr.Raji George
9	Workshop on Cloud Computing	18th March, 2017	UG/ PG students of all related Engineering fields are invited to participate	Cloud computing is a type of Internet -based computing that provides shared computer processing resources and data to computers and other devices on	TrivikramaRao .V

				demand. Cloud computing automates the process through which the user can provision resources on demand. By minimizing user involvement, automation speeds up the process, reduces labor costs and reduces the possibility of human errors. Cloud systems automatically control and optimize resource use by leveraging a metering capability at some level of abstraction appropriate to the type of service	
10	Industrial visit to ACE designers Ltd.	18th April 2017	6th Semester ME 1	Students discussed the following with engineer about CNC Turning machines High precision & high technology CNC Turning machines Special CNC Turning/Boring machines Gantry robot operated turning Tooled up CNC Turning machines	Mr.Amul Chandra
11	TWO DAY NATIONAL CONFERENC	19 th& 20th	Academicians, Scientists, Research	National Conference on Modern Trends	1. Prof. Vasagam, \Former, VC,

	E ON MODERN TRENDS IN MECHANICAL ENGINEERING	May, 2017	Scholars, R&D personnel, Industry Experts & PG students are invited to present papers.	in Mechanical Engineering, MTME'17 is aimed at providing a common platform to Academicians, Students, Research Scholars, Practicing Engineers & Industry Experts to share their ideas, thoughts, findings, etc and to discuss so as to ignite the young engineering minds to drive them towards the excellence in Mechanical Engineering Science and Technology.	M.G.R.University, Chennai. 2. Dr. T. R. Gopala Krishna Nair Rector, RR Group of Institutions 3. Dr. B. K. Sridhar, Dean, NIE, Mysuru 4. Dr.SangaShetty S. G., Principal, Trinity College of Engineering & Technology, Telangana, State 5. Dr.Palani Kumar, Principal, Sai Ram College of Engineering, Chennai. 6. Dr.Murali, Principal, ACS College of Engineering, B'luru 7. Dr. M.N. Shankar Reddy, Prof. & R&D Head, RRCE, B'luru 8. Dr. Ramamurthy, Prof. & Head, YDIT, B'luru. 9. Dr. Anwar Khan Prof. & Head, GCE, Ramanagaram 10.Dr. Ravi Kumar, Professor, Sathyabhama College of Engineering, Chennai.

Department of ISE

SI.NO	DATE	EVENT	RESOURCE PERSON
1	24/9/16	Expert lecture on "Datacenter transformation"	Mr Satish G,IBM India Pvt
2	21/10/16	Seminar on" Effective career planning and guidance on higher education"	Mr Shiva,SaiBalaji, Deputy manager(R&D),BEL,Bangalore
3	22/10/16	Technical talk on" Software teing"	Mr Prashanth Joshi,Senior software QA Engineer,Netscout Software
4	8/3/17 to 10/3/17	Three Days National Level Inter Collegiate Technical Fest	
5	1/4/17	Technical Talk on "Heterogeneous Computing"	Mr.Bishwajit Pal, Senior Manajor,Ernest& Young
6	5/5/17	Industrial visit to ISRO Satellite centre,Bangalore	Mr.Srinivasa, Scientist
7	18/5/17	Industrial Visit to Tata Consultancy Services Limited (TCS), Bangalore	Mr.SreenivasaRamanujam, Academic Relationship Manager, Karnataka &Mr.BighnarajPanigrahi
8	22/5/17	Project Exhibition	

Department of Civil

i). Technical lecturer

Sl no	Date	Title	Technical expert
1	26th Sep 2016	E Surveying	Shivashankar.S Surveying softech Bangalore
2	3rd March 2017	Project Management and E Tabs software	H.M.Raghunath Civil Engineering Softwares ,ECI Vijaynagar.Bangalore
3	4th March 2017	Field Astronomy	Dr H S Govardhana swamy Professor and Head department of civil, RRCE
4	10th March 2017	CADD Competition	AbhinayDeshpande CADD centre Bangalore
5	1st April 2017	Smart dynamic Concrete	Pradeep K Hompole Bangalore
6	4th April 2017	Bentley Softwares in Civil	Mahesh D S, Bentley Softwares India.
7	11th April 2017	Remote Sensing and GIS	Dr H S Govardhana swamy Professor and Head department of civil, RRCE

ii). **Industrial visit**

Sl no	Date/ Year	Industry	Outcome of the students[/
1	18th April 2017	RDC Concrete mix plant Ramohalli	Students got information about concrete materials proportion and concrete mixing with automated equipment.
2	27th April 2017	T.K.Halli water treatment plant Malavalli	Understood the Treatment methods involved for the treatment of water and design of treatment units

Department of CSE

Sl. No.	Academic Year	Date	Event	Event Title	Expert
1	2016-17	27th April 2017	Technical Talk	SAN	Mr Arvind Kumar
2.		18th & 19th April, 2017	Student Development Program	Internet Of Things	Mr.Vinayak and Mr.Deepak, Preva Systems Ltd, Bengaluru.
3.		5th April, 2017	Technical Talk	Awareness on Overseas Education	Ms Jetty Rose Joseph
4.		31st Mar- 1st Apr	Technical Seminar	Software Testing – A detailed Approach	Mr. Ganesh, Sapient Technologies Pvt.Ltd
5		23rd Mar 2017	Technical Seminar	Software Development Methodologies	Mr.Umesh Chandra, Corporate trainee, NIIT
6		13th Mar 2017	Workshop	Python Programming	Mr.NageshRao, CEO,CyberplusInfotechPvt. Ltd.
7		1st Mar 2017	Seminar	Career opportunities and Awareness on Higher studies	Mr.Vinayraj, Bangalore academy
8		21st Feb 2017	Technical Seminar	Student personnel college and cloud	Mrs.HeenaBharadwaj, Transneuron Technologies Pvt Ltd.
9		20th Feb 2017	Technical Talk	Project Development Process	Mr.Sudip Kumar iBridge Solutions
10		21st Oct 2016	National Symposium	Trigger 2k16	---
11		29th Sept. & 3rd Oct 2016	Technical Talk	Data Structure and applications	Prof. Padma Reddy, SVIT,Bengaluru
12		29th Sept. 2016	Technical Talk	Career Guidance on Higher education	Mr. Ram Kumar M. Time Institute
13		22nd Sept 2016	National Conference	National Conference on Recent Trends in Computer Engineering(NCRTS2016)	Dr. T. R. Gopalakrishnan Nair
14		16th Sept 2016	Technical Seminar	C++ and JAVA with handson	Mr.Karthik M.N. Mr.Umesh Chandra NIIT, Vijaynagar
15		26th August 2016	Project Exhibition	Mini Project Exhibition	Pradeep P (SapLabs) KanteSuryachandra(Century Link)

Department of EEE

Sl. No.	Event	Conducted date	Resource person	Remarks
1.	Technical talk by students on their project	30/05/17	8thsem students	"Intelligent Solar Inverter connected to load and grid" "De-Frothing of lake water using solar power" "Wireless Home Automation using Internet of Things"
2.	Hotline training programme	15/05/17-19/05/17	Mr.Prakash	Programme conducted by National power training Institute(NPTI) under Ministry of Power,GOI
3.	Industrial visit	28/04/17	KPTCL, 400KV receiving substation officials Nelamangala,Karnataka	To 440KV Receiving station
4.	Journal club talk	26/04/17	Prof. Bharati.V	"Integrating wind energy to grid"
5	Technical talk	26/04/17	Prof. K.R.Pavan Kumar	"Introduction to Python programming"
6	Guest lecture by alumni	25/03/17	Mr.vishwasHegde	"Bridging gap between industry and academics"
7	5 day FDP	19th- 21st JAN 2017	Dr.ArunachalamProf.Sunitha Prof SincyElezebethKuruvillae, Prof Pavan Kumar, Prof Nandini.N.,	"Simulation and Research Techniques on Power Electronics & Power Systems"
8	Expert Lecture	9th Dec 2016	RatneshLal Das	"HVDC Controland Requirements"
9	Expert Lecture	4th Dec 2016	S. ChanderaShekar	"Testing and commissioning of high voltage substation"
10	3day workshop	7th-9thNov 2016	Mr.Sampuran Singh	"Labview automation"

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

The department has prepared an action plan for the academic year to improve the technical knowledge and industrial exposure to the students. The action plans are as follows.

Plan of action for each department:

1. **Tutorial Classes:**
   - Tutorial classes were conducted for below average students in all the subjects.
   - During tutorial classes, important question to specifics units were discussed.
   - Due to the conduction of tutorial classes many improvements were observed in slow learners.

2. **Parent teachers meeting:**

Objectives of the Practice:

To improve student performance

The Context:

- To bring into closer relation the home and college, that parents and teachers may cooperate more intelligently in the education of youth.
- To strengthen the training and orientation programme and monitoring system in the Department/Area and Institute

Practice

Parent teachers meeting will conduct after each internals from first year and also teachers will be interacting with parents through phones about attendance and internal marks through 1 message campus connect.

3. **Industrial interaction**

   - Industrial interaction will be integrated to student's education for their hands-on training in the subject and application of the same. It is proposed to sign MOU with many companies in Bangalore, prominent trainers for the application of software to conduct the activities in the institution.
   - Many competitions, workshop and seminars are conducted by the industry to train the students as per the industrial requirement.

4. Assessment

Assessment is the mechanism through which quality of education is at time determined. Quality of learning and teaching is evaluated.

Plan of activities of this strand are as follows

1. Student will be allotted to the faculty by continuous monitoring student quality and performance will be evaluated.
2. Preparing the question bank at end of each semester to improve the result.
3. Student feedback is taken at the end of the week to improve the quality of teaching.
4. Conduct the workshop, seminars and more technical lecturer to the students.
5. Organise more industrial visit to the students to improve their practical knowledge.
6. Faculty Development Programs

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

I. Title of the practice: Integrated Teaching

What is integrated teaching?

"An integrated approach allows learners to explore, gather, process, refine and present information about topics they want to investigate without the constraints imposed by traditional subject barriers". An integrated approach allows students to engage in purposeful, relevant learning.

Integrated learning encourages students to see the interconnectedness and interrelationships between the curriculum areas. Rather than focusing on learning in isolated curriculum areas, an integrated program is based on skill development around a particular theme that is relevant to the student in the class.

Integral to the model of integrated learning is the inquiry approach. Students are active learners who research, interpret, communicate, and process learning to both others and themselves. Inquiry approaches allow for students to construct meaning using their prior knowledge on a subject, and new knowledge gained during the learning process.

Integrated learning incorporates multiple subjects, which are usually taught separately, in an interdisciplinary method of teaching. The goal is to help students remain engaged and draw from multiple sets of skills, experiences and sources to aid and accelerate the learning process.

Integrated Teaching Includes

a. Quiz
b. Peer Learning: Many institutions of learning now promote instructional methods involving 'active' learning that present opportunities for students to formulate their own questions, discuss issues, explain their viewpoints, and engage in cooperative learning by working in teams on problems and projects. 'Peer learning' is a form of cooperative learning that enhances the value of student-student interaction and results in various advantageous learning outcomes.

   To realise the benefits of peer learning, teachers must provide 'intellectual scaffolding'. Thus, teachers' prime students by selecting discussion topics that all students are likely to have some relevant knowledge of; they also raise questions/issues that prompt students towards more sophisticated levels of thinking. In addition, collaborative processes are devised to get all group members to participate meaningfully
c. Seminars
d. Technical Videos
e. Tutorials
f. Hands on Workshops Related to Curriculum
g. Industrial Visit
h. Projects
i. Conferences
j. Project Exhibition and Poster presentation.

II. Title of the practice: Soft and Technical Skill Development

a. Personality Development Programs.
b. Pre-enrolment guidance.
c. Induction program is conducted for students to enables them to settle quality in to the college community.
d. Innovation and Entrepreneurship Development Centre(IEDC) is established in college to develop the innovation based entrepreneurship culture among the faculty and students.

Goal: To provide industry and R&D oriented training, and other skill sets to students to make them globally competitive and employable in multinational industries or to pursue the higher studies in engineering.

The Context: The employability is one of the biggest challenges for engineering education and institutions for graduating students. The primary reason for this is the lack of skill sets as per the

need of industry; it may be due to complete disconnecting between industry and academic institutions. The curriculum was also not designed as per the need of industry. So there is an eminent need to provide the skill sets (both technical as well as non-technical skills) so that the students can meet the challenge.

The Practice: The college has taken corrective measure to meet the need for improving employability of students through setting up a separate Entrepreneurship Development Programme Cell as well initiated various skill oriented programs in the campus, so that students can easily be placed or can opt of higher studies. Some of the efforts made in this direction are briefly described here.

Industry Oriented Training Programs: The department has started many industry oriented training programs conducted by competent authorized organizations. These programs are conducted weekends or in vacations and train the students to be suitable for industry requirement.

Personality Development Program (PDP): Communication and other soft skills are required for all round development of students. They play major role in improving the employability of students. College started the PDP classes for the students with regular course by trained PDP trainers for 3rd and 4th year students.

Aptitude & Graduate Aptitude Test in Engineering Classes: College also started Aptitude classes in all the departments which help students to get placed in Public Sector Units (PSU) easily and also go for higher studies.

Evidence of Success: The initiatives and measures taken by the college help students to upgrade their technical and non-technical skills improving the employability of students/ promote to pursue the higher studies. The college placements have been steadily improving in terms of number of companies coming to campus, number of students employed as well as quality of placements. Other than this the number of GATE qualified students has increased and they opt for higher studies/ go for PSU's jobs.

Problem Encountered & Resources Required: The university curriculum is fixed for four years by the university and need to update regularly as per industry needs. Some of the students are not fulfilling the eligibility criteria of industry is required to develop the skill, so that they can

overcome the deficiency and can get placed in other industry. Some of the students which are from Hindi medium and Kannada medium require rigorous PDP training to improve the soft skill.

III. Title of the practice: Mentoring System

Objectives of the practice:

The Mentoring system assigns a faculty member to every student. The faculty member is called the mentor for the student. The mentor plays the role of a personal mentor for the student in all matters. For the institute, the mentor is the first point of reference for all matters concerning any specific student. The mentor guides the student at every step of their stay at the institute to be successful at whatever the student takes up. The mentor personally ensures that the student is aware of all the resources available to the student during their course of study at the institute. The mentor is available to counsel the student in any matter of concern apart from the curriculum also.

The Context:

The Mentoring system is relatively new in general to a student entering the institute. The students do take some time to familiarize and feel more comfortable with their mentors and most importantly develop confidence in them. The students meet their mentors to consult with them regarding the courses to take and to guide them through the registration process. The students then meet their mentors before every internal assessment to update them on their progress in every course. The students also see their mentors after the internal assessments to discuss about their performance and about the scope for improvement next time and the steps to be taken to achieve the same. The students might also choose to meet their mentors more regularly for advice regarding matters which may be extra- or co-curricular or otherwise. In addition, the mentor might also choose to see any student with more regularity when their academic performance concerns the mentor.

The Practice:

A mentor is a personal mentor and counselor for a student during the duration of stay at the institute. A mentor represents a parent away from home for a student, and is the first point of reference for the activities of a student during the complete course of study at the institute.

As soon as a student enters the institute, a faculty member is assigned to take over the role of a mentor for the student. The mentor not only guides the student in academic matters but also any matter of concern for the student. The student seeks the advice of the mentor at every step of their

course of study beginning from the registration for courses at the start of every semester. The students meet their mentors regularly.

However, depending on the need, mentor conducts more meetings with their students and their parents. The mentor educates the student about the various course requirements, such as the mandated minimum and maximum course load every semester, and how to choose electives. The mentor helps the student channel their interests and energies effectively during the complete course of study at the institute. The students meet their mentors for various reasons, some students would like extra help with the material in a course and are shy to approach a new instructor assigned to the course. Few might be facing problems adjusting to the new environment may be in the hostel or at other places around the institute, some others would like to know about their options of availing various resources at the institute . Students would like to know about their options for going through internships during the break or even the benefits of the same, few might want to do some minor project work or participate in various competitions in addition to their courses, some other might want to know their options after graduation and how to figure out where they would fit in better. At times the students might just need someone who can give them personal time and attention by listening to their struggles in transitioning to a higher education environment and finally in becoming a constructive member of society.

Evidence of success:

The most important evidence of success for the mentoring system is from the testimonials of the end-users. The students and their parents have been very happy with the mentoring system. Generally, for the complete duration of the course of study of a student any one faculty member has been effective in monitoring the role of a mentor. The behavior of the students on the campus in general has witnessed a tremendous improvement and the students are much happier and contended with their course of study at the institute after the implementation of the mentoring system.

The pass percentage and the average academic performance of the students have also achieved greater heights with the mentoring system. Some students have presented themselves as quite a challenge for their mentors, but they figure out their priorities and start performing better after counseling sessions with their mentors. The students have been at most risk during their initial stages in the course of study. The transition to higher education set-up proves to be too sudden for some students. The mentoring system has addressed the needs of the students and effectively nurtured many students during the duration of its implementation.

Problems encountered and resources required:

Despite our best efforts in the effective implementation of the mentoring system, there are still a small percentage of students who discontinue their course of study at the institute. The percentage of drop-outs did reduce greatly after implementing the system, but still present. Some students have required a great deal of time and effort from their mentors but have shined after. However, the depression that a small percentage of students went through was too critical for us to handle. We are planning to establish a Centre with professional counselors.

7.4 Contribution to environmental awareness / protection

Sl. No.	Date	Name of the activity
1	24/09/16	Awareness program to blue belt employees on **"cause of Dengue and precautionary measures** "
2	01/04/17 to 07/04/17	NSS volunteers are participated in Leadership CAMP "Healthy Youth for Healthy India" at VTU
3	12/05/17	NSS activity on "Slowdown & Save lives"

Green Day Celebration

Green practices:

- A good practice followed by students, staff and faculties to use the resource efficiently.
- Enterprise Resource Planning (ERP) system is in place to emphasize the paper less work.
- Awareness programs conducted by students.
- A smoking free and neat campus is maintained with support of the students, staff and faculties.
- Sustainability principles, practices and Environmental Studies are part of curriculum like Environmental Science and Engineering.

Initiatives taken by the college to make the campus eco-friendly

➢ **Energy conservation**

- The buildings are fitted with glass windows for max utilization of natural light.
- Lights and fans are switched off when not required.
- Air-conditioners are used only at essential places.

- Energy efficient compact fluorescent tubes and ceiling fans of higher star ratings are used in most of the places to ensure energy conservation.
- Staggering of classes has been done to reduce peak load.
- Energy saving awareness program has been initiating among the staff and students.
- The UPS Batteries were maintained in good condition which reduces charging current of batteries.
- The college has gradually moved on from normal light bulbs (least required wattage) to tube lights, slim lights, CFLs, LEDs and the college also replaced most of the CFT monitor from LCD monitors thus conserving energy to the extent required.

➢ **Use of renewable energy**

- It is planning to use the renewable energy in the campus.
- The institute has installed Solar (PV) panels and Solar Water heating system and these are used as forms of renewable energy.

➢ **Water harvesting**

- It is planning to harvest rainwater in the campus. However, Waste water recycled and used for garden.
- There is enough extent of plantation to reduce evaporative loss and soil erosion.

➢ **Check dam construction**

- The importance of check dam construction and use guest lecture is conducted to create awareness.

➢ **Efforts for Carbon neutrality**

- The College has been nurturing a large number of plants and trees which can absorb carbon dioxide. The Institute restricted the usage of plastic bags in the campus.
- Routine inspection of college vehicles and generator set and other equipment ensures lowest possible emission and pollution free environment thereby neutralizing the carbon effect. Other than this the green lawns and plantation is also helpful in fixation of carbon content present in environment and helps in making pollution free environment.
- Provision of convenient and easy to use Scan to Email facility to each department to keep documents in electronic format.

- Working towards making office and committee work paperless, wherever possible.
- Usage of plastics is strictly discouraged.
- Waste segregation is done at source; with separate bins for dry and wet wastes.
- Papers are sent for recycling.
- Efforts are on to upgrade college buses to BS IV norms as per National Pollution Control Board.
- Two Diesel generators are situated in the college campus of Capacity 125KVA and 180KVA capacity which are approved by Karnataka State Pollution Control Board Emission Norms and provide with Silencers/Mufflers to reduce noise pollution.

➢ **Plantation**

- Every year in 1st week of July/Aug during Vana-Mahotsav, students of RajaRajeswari College of Engineering participate with enthusiasm in plantation drive. This drive is to remind the young citizens the importance of environment and ecology for sustainable development.
- Different plants are nurtured with care. The College drives into the space for trees, garden and open spaces to protect the campus in GREEN.

➢ **Hazardous waste management**

Generally, no hazardous waste is generated in the campus from any Department. The condemned batteries are disposed through outside agencies. All precautions are taken to store few concentrated acids/chemicals in a safe and separate room.

The liquid waste from the chemical laboratories are isolated and neutralized they are then released in common effluent stream and gets diluted (solution of pollution is dilution).

➢ **e-waste management**

The obsolete computers and other wastes generated from the electronic equipment's are auctioned to authorized e-waste dealers and the hazardous materials in those equipment's are removed and disposed as per norms. The old computers are also exchanged with new computer.

7.5 Whether environmental audit was conducted? Yes

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

SWOC Analysis of the Department and Future Plans.

Strength

- Committed, progressive, experienced and supportive management.
- Committed, well qualified, research oriented and student caring faculty.
- Recognized research Centre in the department to offer doctoral programs.
- Adequate number of research guides to guide PhD students.
- Department is in close proximity of organizations like IISc. NAL, CPRI etc. for collaborative research work Consistent, highly satisfactory faculty competence index for the faculty.
- Student friendly services.

Weakness:

- Diverse student community
- Due to socio economic background of students and the paucity of time available for them, limitation on implementing of value added courses.
- Potential networking with other institutions is not fully appreciated.
- Inadequate interaction with industries and research labs

Opportunities:

- Location advantage for strengthening academia- industry linkages.
- Possibility of offering interdisciplinary electives
- Enhancing networking and sharing of knowledge with other institutions
- Possibility of introducing interdisciplinary PG program in the department

Constraints:

- Keeping pace with the rapid changes in higher education
- Sustaining quality along with access
- Generation of resources for up gradation of infrastructure.

Annexure - I

ABBREVIATIONS

VTU	-	Visvesvaraya Technological University
CBCS	-	Choice Based Credit System
CE	-	Centre for Excellence
COP	-	Career Oriented Programme
CPE	-	College with Potential for Excellence
DPE	-	Department with Potential for Excellence
GATE	-	Graduate Aptitude Test
IQAC	-	Internal Quality Assurance Cell
NET	-	National Eligibility Test
PEI	-	Physical Education Institution
SAP	-	Special Assistance Programme
SF	-	Self Financing
SLET	-	State Level Eligibility Test
TLP	-	Teaching & Learning Process
UPE	-	University with Potential Excellence
UPSC	-	Union Public Service Commission

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Annexure – II

ACADEMIC CALENDER OF THE UNIVERSITY

Academic Calendar of VTU, Belagavi for ODD Semester of 2016-2017 (Aug 2016 – Jan 2017)

	III, V & VII Sem B.E/B.Tech III, V, VII & IX Sem B.Arch	III & V Sem MCA	III Sem MBA	III Sem M.Tech	III Sem M.Arch.	I Sem B.E/B.Tech/ B.Arch.	I Sem MCA	I Sem MBA	I Sem M.Tech.	I Sem M.Arch.
							← TENTATIVE →			
Commencement of ODD Semester	01.08.2016	01.08.2016	01.08.2016	01.08.2016 [Internship of 16 Weeks]	26.08.2016	01.08.2016	01.08.2016	01.08.2016	01.08.2016	01.08.2016
Last Working day of ODD Semester	19.11.2016	19.11.2016	19.11.2016	19.11.2016	29.12.2016	19.11.2016	19.11.2016	19.11.2016	19.11.2016	03.12.2016
Practical Examination	21.11.2016 To 30.11.2016	21.11.2016 To 30.11.2016	-	-	-	21.11.2016 To 30.11.2016	21.11.2016 To 30.11.2016	-	21.11.2016 To 24.11.2016	-
Theory Examinations	02.12.2016 To 07.01.2017	02.12.2016 To 22.12.2016	23.11.2016 To 07.12.2016	02.12.2016 To 20.12.2016 [Theory examination of arrear Subjects]	02.01.2017 To 14.01.2017	02.12.2016 To 24.12.2016	02.12.2016 To 15.12.2016	25.11.2016 To 09.12.2016	28.11.2016 To 15.12.2016	07.12.2016 To 22.12.2016
Summer Project / Professional training	-	-	09.12.2016 To 14.02.2017 [Submission report to VTU by 14.03.2017]	-	01.07.2016 To 25.08.2016 [Professiona l Training]	-	-	-	-	-
Commencement of EVEN Semester	02.02.2017	02.02.2017	16.02.2017	26.12.2016	02.02.2017	02.02.2017	02.02.2017	02.02.2017	02.02.2017	02.02.2017

1. College Time Table shall be arranged for five and a half week days and planned to accommodate EDUSAT transmission slots, the schedule of which will be notified separately.
2. The faculty/staff shall be available to undertake any work assigned by the university.
3. If any of the above date is declared to be a holiday then the corresponding event will come into effect on the next working day.
4. Notification regarding Calendar of Events relating to the conduct of University Examination will be issued by the Registrar (Evaluation) from time to time

REGISTRAR

Academic Calendar of the year 2016-17 – Odd Semester

RAJARAJESWARI COLLEGE OF ENGINEERING, BANGALORE-74.

CALENDER OF EVENTS – II / IV /VI/ VIII/ MCA/M.TECH SEMESTER B.E.

SESSION: Feb – May 2016

Week No.	Month	Day						No. of Working Days	Activities
		MON	TUE	WED	THU	FRI	SAT		
1.	Feb	01	02	03	04	05	06	6	1st Re Opening Day
2.	Feb	08	09	10	11	12	H 13	5	13TH Second Saturday Holiday
3.	Feb	15	16	17	18	19	20	6	
4.	Feb	22	23	24	25	26	27	6	
5.	Feb/ March	29	01	02	03	04	05	6	
6.	March	H 07	08	09	10	11	H 12	4	7th Mahashivaratri 12th Second Saturday Holiday
7.	March	T1 14	T1 15	T1 16	17	18	19	3	14th ,15th ,16th – 1st Test 17th 18th 19th Sports Day & Cultural Day
8.	March	21	22	TAD1 23	24	H 25	26	5	25th Good Friday
9.	March/ April	28	29	30	31	01	02	6	
10.	April	04	05	06	07	H 08	H 09	4	8th Ugadi 9th Second Saturday Holiday
11.	April	11	12	T2 13	H 14	T2 15	T2 16	2	11th,12th ,13th - 2nd Test 14th Ambedkhar Jayanthi
12.	April	18	H 19	20	21	TAD2 22	23	5	19th Mahaveer Jayanthi
13.	April	25	26	27	28	29	30	6	
14.	May	02	03	04	05	06	07	6	
15.	May	09	T3 10	T3 11	T3 12	13	H 14	2	9th - Basavajayanthi 10th, 11th ,12th - 3rd Test 14th Second Saturday Holiday
16.	May	TAD3 16	LT 17	LT 18	LT 19	20	21	6	

- H – Holiday • T1, T2 and T3 – 1st , 2nd and 3rd Test respectively
- TAD 1, TAD 2, TAD 3 – Test Marks and Attendance Display as at the end of 8th, 12th, and 15th week. LT – Lab Test
- IAD – Display of IA Marks. Students to bring corrections, if any, before 11.00 a.m. on 19th May 2016 to the notice of the respective HODs.
- Total No. of working Days 78 Total No.of hours Avg Minimum= 46 Maximum =50 /Per Semester

Academic Calendar of the year 2016-17 – Even Semester

RAJARAJESWARI COLLEGE OF ENGINEERING – BANGALORE -74
CALENDER OF EVENTS – I/III/V/VII Semester
MCA: III/IV Sem. M. Tech: 3rd Sem, MBA: 3rd Sem
SESSION: AUG-NOV- 2016.

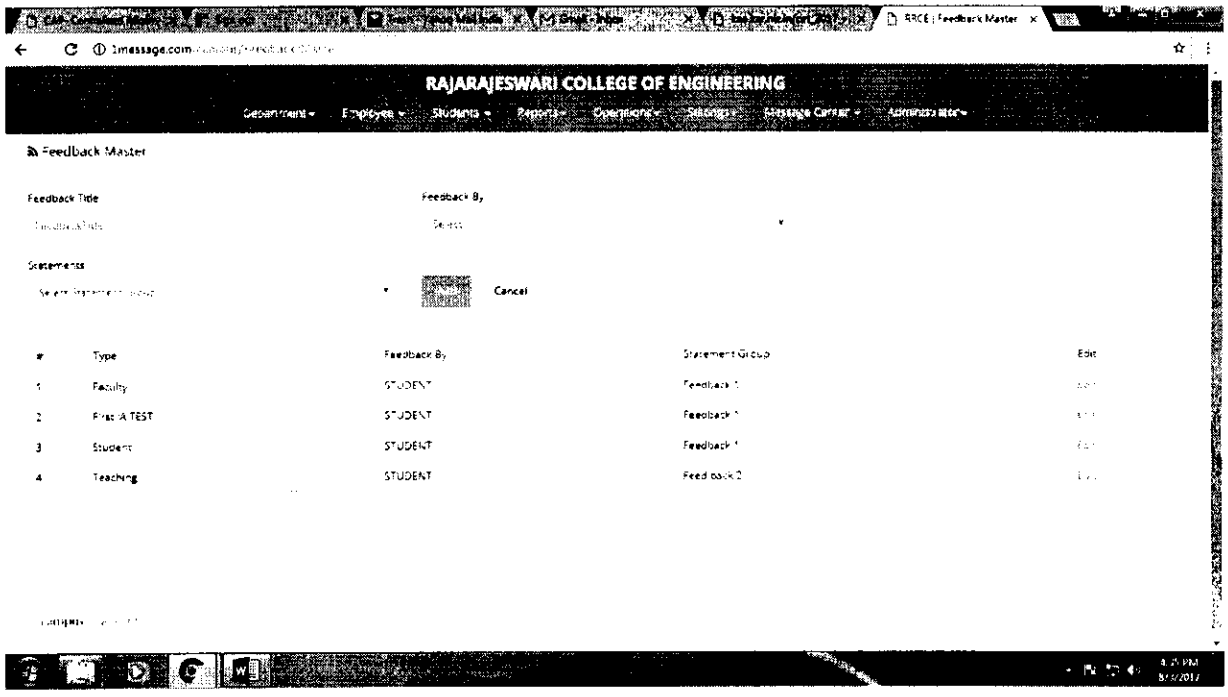
Week No.	Month	Day						No. of working Days	Activities
		MON	TUE	WED	THU	FRI	SAT		
1	Aug	01	02	03	04	05	06	06	1st Re Opening Day
2	Aug	08	09	10	11	12	H 13	5	13th Second Saturday Holiday
3	Aug	H 15	16	17	18	19	20	5	15th Independence Day
4	Aug	22	23	24	25	26	27	6	
5	Aug-Sep	29	30	31	01	02	03	6	
6	Sep	H 05	06	07	08	09	H 10	4	5th Ganesha Chaturthi 10th Second Saturday Holiday 6th,7th,8th ITA Test
7	Sep	H 12	13	14	15 EAD	16	17	5	12th Bakrid
8	Sep	19	20	21	22	23	24	6	
9	Sep-Oct	26	27	28	29	H 30	01	5	30th Mahalaya Amavasya
10	Oct	03	04	05	06 T2	07 T2	08 T2	5	6th,7th,8th ITA Test
11	Oct	H 10	H 11	H 12	13	14 EAD	H 15	2	10th Ayuda Pooja, 11th Vijayadashami, 12th Moharram 15th Valmiki Jayanthi
12	Oct	17	18	19	20	21	22	6	
13	Oct	24	25	26	27	28	H 29	5	29th Naraka Chaturdashi
14	Oct-Nov	H 31	H 01	02	03	04	05	4	31st Balipadyami 01st Rajyotsava
15	Nov	07 T3	08 T3	09 T3	10	11	H 12	5	12th Second Saturday 7th,8th,9th ITA Test
16	Nov	14	15	16 EAD	H 17	18	19	5	15th Kanakadasa Jayanthi 14th,15th,16th Lab Test 19th Last Working Day

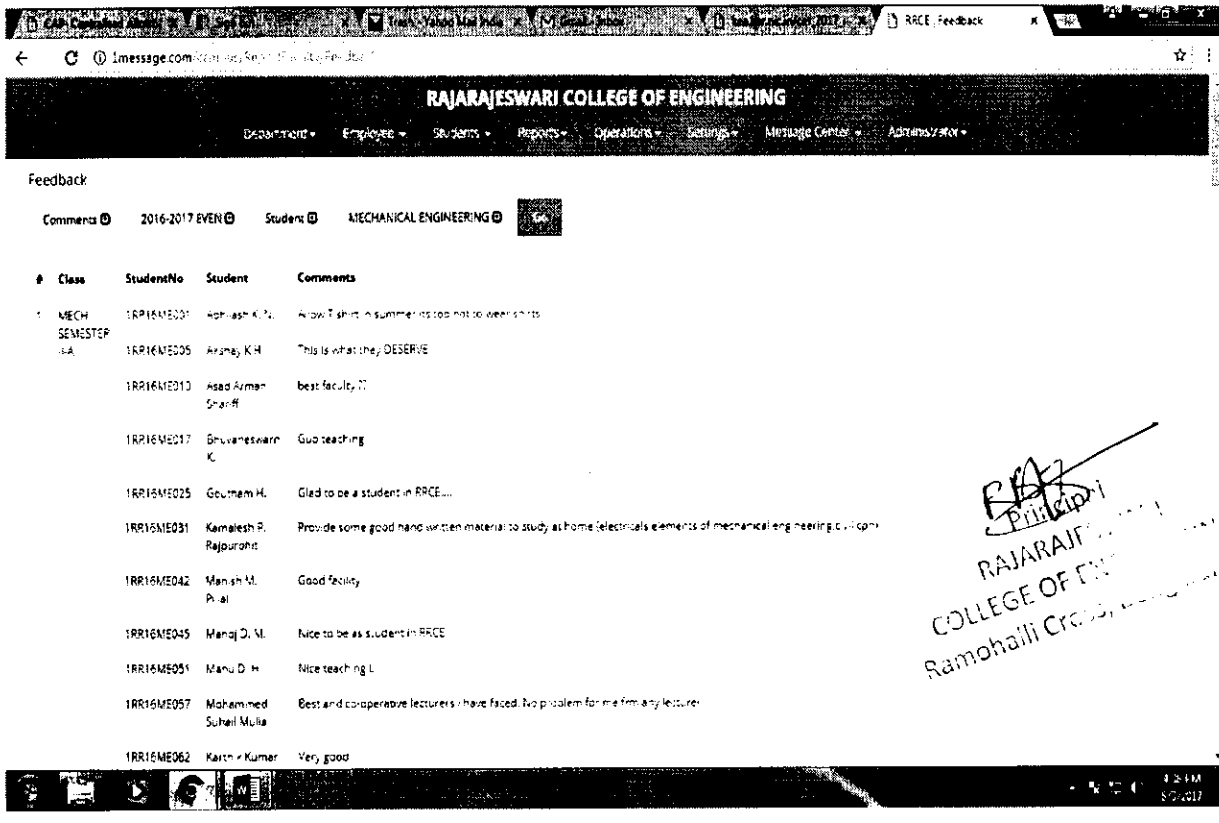
- H- Holiday
- T1,T2 & T3- 1st, 2nd & 3rd Test respectively

Principal
RAJARAJESWARI
COLLEGE OF ENGINEERING

Annexure – III

Online Feedback Systems (ERP software)





Principal
RAJARAJ... COLLEGE OF ENGINEERING
Ramohalli Cross, ...u-74

Annexure – IV

Best Practices of the Institution

1. TITLE OF THE PRACTICE: INTEGRATED TEACHING

WHAT IS INTEGRATED TEACHING?

"An integrated approach allows learners to explore, gather, process, refine and present information about topics they want to investigate without the constraints imposed by traditional subject barriers". An integrated approach allows students to engage in purposeful, relevant learning.

Integrated learning encourages students to see the interconnectedness and interrelationships between the curriculum areas. Rather than focusing on learning in isolated curriculum areas, an integrated program is based on skill development around a theme that is relevant to the student in the class.

Integral to the model of integrated learning is the inquiry approach. Students are active learners who research, interpret, communicate, and process learning to both others and themselves. Inquiry approaches allow for students to construct meaning using their prior knowledge on a subject, and new knowledge gained during the learning process.

Integrated learning incorporates multiple subjects, which are usually taught separately, in an interdisciplinary method of teaching. The goal is to help students remain engaged and draw from multiple sets of skills, experiences and sources to aid and accelerate the learning process.

Integrated Teaching Includes

a. Quiz
b. Peer Learning: Many institutions of learning now promote instructional methods involving 'active' learning that present opportunities for students to formulate their own questions, discuss issues, explain their viewpoints, and engage in cooperative learning by working in teams on problems and projects. 'Peer learning' is a form of cooperative learning that enhances the value of student-student interaction and results in various advantageous learning outcomes.

   To realise the benefits of peer learning, teachers must provide 'intellectual scaffolding'. Thus, teachers' prime students by selecting discussion topics that all students are likely to have some relevant knowledge of; they also raise questions/issues that prompt students

towards more sophisticated levels of thinking. In addition, collaborative processes are devised to get all group members to participate meaningfully

c. Seminars
d. Technical Videos
e. Tutorials
f. Hands on Workshops Related to Curriculum
g. Industrial Visit
h. Projects
i. Conferences
j. Project Exhibition and Poster presentation.

II. TITLE OF THE PRACTICE: SOFT AND TECHNICAL SKILL DEVELOPMENT

a. Personality Development Programs.
b. Pre-enrolment guidance.
c. Induction program is conducted for students to enables them to settle quality in to the college community.
d. Innovation and Entrepreneurship Development Centre(IEDC) is established in college to develop the innovation based entrepreneurship culture among the faculty and students.

Goal: To provide industry and R&D oriented training, and other skill sets to students to make them globally competitive and employable in multinational industries or to pursue the higher studies in engineering.

The context: The employability is one of the biggest challenges for engineering education and institutions for graduating students. The primary reason for this is the lack of skill sets as per the need of industry; it may be due to complete disconnecting between industry and academic institutions. The curriculum was also not designed as per the need of industry. So there is an eminent need to provide the skill sets (both technical as well as non-technical skills) so that the students can meet the challenge.

The Practice: The college has taken corrective measure to meet the need for improving employability of students through setting up a separate Entrepreneurship Development Programme Cell as well initiated various skill oriented programs in the campus, so that students

can easily be placed or can opt of higher studies. Some of the efforts made in this direction are briefly described here.

Industry Oriented Training Programs: The department has started many industry oriented training programs conducted by competent authorized organizations. These programs are conducted weekends or in vacations and train the students to be suitable for industry requirement.

Personality Development Program (PDP): Communication and other soft skills are required for all round development of students. They play major role in improving the employability of students. College started the PDP classes for the students with regular course by trained PDP trainers for 3rd and 4th year students.

Aptitude & Graduate Aptitude Test in Engineering Classes: College also started Aptitude classes in all the departments which help students to get placed in Public Sector Units (PSU) easily and also go for higher studies.

Evidence of Success: The initiatives and measures taken by the college help students to upgrade their technical and non-technical skills improving the employability of students/ promote to pursue the higher studies. The college placements have been steadily improving in terms of number of companies coming to campus, number of students employed as well as quality of placements. Other than this the number of GATE qualified students has increased and they opt for higher studies/ go for PSU's jobs.

Problem Encountered & Resources Required: The university curriculum is fixed for four years by the university and need to update regularly as per industry needs. Some of the students are not fulfilling the eligibility criteria of industry is required to develop the skill, so that they can overcome the deficiency and can get placed in other industry. Some of the students which are from Hindi medium and Kannada medium require rigorous PDP training to improve the soft skill.