

Annual Quality Assurance Report (AQAR)

Submitted to

**National Assessment and
Accreditation Council (NAAC)**



Academic Year: 2015 - 16

Submitted by

Veltech Dr.RR & Dr.SR University
(Estd. u/s of UGC Act, 1956)

Passionate • Doers

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The Annual Quality Assurance Report (AQAR) of the IQAC

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

Part – A

AQAR for the year (for example 2013-14)

2015 - 16

I. Details of the Institution

1.1 Name of the Institution

Vel Tech Rangarajan Dr. Sagunthala R & D
Institute of Science and Technology

1.2 Address Line 1

42, Avadi –Vel Tech Road

Address Line 2

Avadi

City/Town

Chennai

State

Tamil Nadu

Pin Code

600 062

Institution e-mail address

vtu@veltechuniv.edu.in

Contact Nos.

044-26840099

Name of the Head of the Institution:

Prof. Beela Satyanarayana

Tel. No. with STD Code:

044-26840099

Mobile:

08754416291

Name of the IQAC Co-ordinator:

Dr. A. Abudhahir

Mobile:

IQAC e-mail address:

1.3 NAAC Track ID (For ex. MHCOGN 18879)

OR

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

1.5 Website address:

Web-link of the AQAR:

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

1.6 Accreditation Details

Sl. No.	Cycle	Grade	CGPA	Year of Accreditation	Validity Period
1	1 st Cycle	A	3.17	2015	5 years (16.11.2015 to 15.11.2020)
2	2 nd Cycle				
3	3 rd Cycle				
4	4 th Cycle				

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

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

- i. AQAR _____ (DD/MM/YYYY)
- ii. AQAR _____ (DD/MM/YYYY)
- iii. AQAR _____ (DD/MM/YYYY)
- iv. AQAR _____ (DD/MM/YYYY)

1.9 Institutional Status

University State Central Deemed Private

Affiliated College Yes No

Constituent College Yes No

Autonomous college of UGC Yes No

Regulatory Agency approved Institution (eg. AICTE, BCI, MCI, PCI, NCI) Yes No

Type of Institution Co-education Men Women

Urban Rural Tribal

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

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

1.10 Type of Faculty/Programme

Arts Science Commerce Law PEI (Phys Edu)

TEI (Edu) Engineering Health Science Management

Others (Specify)

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

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

Autonomy by State/Central Govt. / University

University with Potential for Excellence UGC-CPE

DST Star Scheme UGC-CE

UGC-Special Assistance Programme DST-FIST

UGC-Innovative PG programmes

UGC-COP Programmes Any other (*Specify*)

Recognition of DSIR SIRO valid from 28.01.14 to 31.03.16 & 01.04.16 to 31.03.19
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2. IQAC Composition and Activities

2.1 No. of Teachers

2.2 No. of Administrative/Technical staff

2.3 No. of students

2.4 No. of Management representatives

2.5 No. of Alumni

2.6 No. of any other stakeholder and community representatives

2.7 No. of Employers/ Industrialists

2.8 No. of other External Experts

2.9 Total No. of members

2.10 No. of IQAC meetings held

2.11 No. of meetings with various stakeholders: No. Faculty Non-Teaching Staff

Students Alumni Others

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

If yes, mention the amount

2.13 Seminars and Conferences (only quality related)

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

Total Nos. International National State Institution Level

(ii) Themes

- Effective teaching and assessment strategies.
- Outcome Based Education and accreditation.

2.14 Significant Activities and contributions made by IQAC

- Conducted faculty training programs / workshops on outcome based education
- Conducted series of workshops on curriculum design and development
- Arranged guest lectures on various teaching methods including Active Learning
- Facilitated various program coordinators towards accreditation
- Designed various stakeholders survey questionnaires for continuous improvement
- Applied for various national Rankings / Ratings
- Facilitated to establish Teaching Developers Initiative – a faculty circle – meet every week Friday and share their classroom experiences
- Conducted TDI day
- Conducted workshop on 3D and Active Learning Methods for the school teachers in Tamil Nadu.
- Encouraged faculty members to carryout research on educational methodologies and present / publish papers in the conference and journals
- Analysed stakeholders feedback and given inputs to various administrator systems for continuous improvement
- Facilitated to benchmark our curricular practices with Conceive – Design – Implement – Operate (CDIO)
- Pre-visit Qualifiers submitted to NBA for four B.Tech Engineering programs namely 1. Automobile Engineering 2. Civil Engineering 3. Computer Science and Engineering 4. Electronics and Communication Engineering. Self Appraisal Report (SAR) presentation is under way.

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
NAAC <ul style="list-style-type: none">• Decided to go for NAAC Accreditation and set the minimum CGPA of 3 as target. NBA <ol style="list-style-type: none">1. One more year extension for NBA accreditation for two programs namely 1. Aeronautical Engineering 2. Mechanical	NAAC <ul style="list-style-type: none">• Accredited by NAAC with A grade with CGPA 3.17 NBA <ol style="list-style-type: none">1. Extended one more year for NBA accreditation for two programs.

Plan of Action	Achievements
<p>Engineering</p> <p>2. Decided to go for NBA – Tier I accreditation for four B.Tech programmes namely 1. Automobile Engineering 2. Civil Engineering 3. Computer Science and Engineering 4. Electronics and Communication Engineering</p> <p>CDIO</p> <p>1. Becoming member in CDIO - an innovative educational framework</p> <p>2. Establishment of CDIO workspace</p> <p>3. Freshman Engineering (DME) project for First year B.Tech students</p> <p>4. Implement – Operate (IO) project for Second year students</p> <p>Choice Based Credit System (CBCS)</p> <p>1. CBCS regulations for M.Tech programme</p> <p>Active Learning</p> <p>1. Establishing Active Learning classrooms</p> <p>2. Training faculty members on Active Learning</p> <p>3. Employing Active Learning course delivery</p> <p>Teaching Developers Initiative (TDI)</p> <p>1. Faculty forum to share and discuss about novel / innovative teaching methods practiced in their classroom course delivery</p> <p>Rankings / Ratings</p> <p>1. To participate NIRF India Rankings 2017</p> <p>2. To participate in Times Higher Education (THE) Asian Rankings 2017</p> <p>3. Participating QS Star Rating / QS BRICS Ranking 2017</p> <p>International Visits related to Quality</p> <ul style="list-style-type: none"> To visit various institutions globally to 	<p>2. Pre-visit Qualifiers submitted to NBA for four B.Tech Engineering programs. Self Appraisal Report (SAR) presentation is under way</p> <p>CDIO</p> <p>1. Became first CDIO member from India in the Asian regional meeting held at Yanshan University, China</p> <p>2. Established CDIO workspace</p> <p>3. Introduced one credit course “FME Project”. 173 batches of 987</p> <p>4. About 40 teams of students did IO project.</p> <p>Choice Based Credit System (CBCS)</p> <p>1. Academic Regulations Framed</p> <p>Active Learning</p> <p>1. Established seven workspaces for Active Learning</p> <p>2. About 200 faculty members were attended training on Active Learning</p> <p>3. 20% of the course delivery has made through Active Learning</p> <p>Teaching Developers Initiative (TDI)</p> <ul style="list-style-type: none"> 14 faculty members met 15 weeks and share their classroom experience, vis-a-vis implementation of innovative teaching methods TDI Day: An open house was conducted <p>Rankings / Ratings</p> <p>1. Data / details uploaded in DCF of NIRF portal for two categories namely (i).Overall (ii).Engineering for NIRF India Rankings 2017</p> <p>2. Registration completed</p> <p>3. Yet to be applied</p> <p>Our professors visited the following institutions to observe their best practices.</p>

Plan of Action	Achievements
observe their best practices	<ol style="list-style-type: none"> 1. National University of Singapore 2. Singapore Polytechnic 3. Singapore University of Technology and Design 4. Universiti Kebangsaan Malaysia 5. Taylor's University Malaysia 6. UiTM, Malaysia 7. Multimedia University, Malaysia 8. Chengdu University of information technology, China 9. Yanshan university, China 10. Chalmers university of technology, Sweden 11. Turku university of applied sciences, Finland

2.16 Whether the AQAR was placed in statutory body Yes No

Management Syndicate Any other body

32 nd BoM held on 04.02.17
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Provide the details of the action taken

- | |
|---|
| <ul style="list-style-type: none"> • Conducted faculty training programs / workshops on outcome based education • Conducted series of workshops on curriculum design and development • Arranged guest lectures on various teaching methods including Active Learning • Established seven workspaces for Active Learning • About 200 faculty members were attended training on Active Learning • 20% of the course delivery has made through Active Learning • Applied for various national Rankings / Ratings • Facilitated to establish Teaching Developers Initiative – a faculty circle – meet every week Friday and share their classroom experiences • Conducted TDI day • Conducted workshop on 3D and Active Learning Methods for the school teachers in Tamil Nadu. • Analysed stakeholders feedback and given inputs to various administrator |
|---|

systems for continuous improvement

- Facilitated to benchmark our curricular practices with Conceive – Design – Implement – Operate (CDIO)
- Extended one more year for NBA accreditation for two B.Tech programs namely 1. Aeronautical Engineering 2. Mechanical Engineering.
- Pre-visit Qualifiers submitted to NBA for four B.Tech Engineering programs namely 1. Automobile Engineering 2. Civil Engineering 3. Computer Science and Engineering 4. Electronics and Communication Engineering. Self Appraisal Report (SAR) presentation is under way.
- Our professors visited the various institutions globally to observe their best practices.

Part – B

Criterion – I

I. 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	13	-	-	-
PG	10	-	-	-
UG	08	-	-	-
PG Diploma	-	-	-	-
Advanced Diploma	-	-	-	-
Diploma	-	-	-	-
Certificate	-	-	-	-
Others	-	-	-	-
Total	31	-	-	-
Interdisciplinary	-	-	-	-
Innovative	-	-	-	-

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

(ii) Pattern of programmes:

Pattern	Number of programmes
Semester	18
Trimester	-
Annual	-

1.3 Feedback from stakeholders* (On all aspects)

Alumni Parents Employers Students

Mode of feedback

Online Manual Co-operating schools (for PEI)

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

<p>Yes, Every Semester Board of Studies is conducted</p> <ul style="list-style-type: none"> • More design and Implement related courses were introduced • FME and IO projects were introduced • Integrated courses were introduced • Courses like Biology for Engineers, Design Thinking. Introduction to Engineering were included in the curriculum • Practical courses were conducted giving more focus on product development. • Open-ended problems / projects were included in the laboratory courses

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

School of Media Technology and Communication was established. However three programmes, namely B.Sc in Visual Communication, Electronic Media and Multimedia, are offered from the Academic Year 2016-17.

Conceive-Design-Implement-Operate (CDIO) Workspaces

From the academic year 2015-16 onwards, Vel Tech University has started adaptation of new concept in education called “**Conceive-Design-Implement-Operate**” (CDIO) approach. Adaptations of CDIO syllabus and CDIO standards help to systematically reform the curricula and teaching learning methods to establish and implement Outcome Based Education. As the first initiative of this transformation, Vel Tech University has established an **Engineering Workspace** to support and encourage hands-on learning of product, process, and system building, disciplinary knowledge, and social learning.

The workspace consists of modern and higher end systems, equipments and mechanical tools like workstation, Kyan projector, electronic equipments [6 $\frac{1}{2}$ digit multimeter, LCR meter, regulated Power Supply, Calibrator for Keysight(Agilent)] and Mechanical equipments [Drilling Machines, Cutters, Heater, Gluegun from Bosch, welding kit from Toshan and Hydraulic and Pneumatic testing Kit].

Criterion – II

2. Teaching, Learning and Evaluation

2.1 Total No. of permanent faculty	Total	Asst. Professors	Associate Professors	Professors	Others
	345	220	81	44	-

2.2 No. of permanent faculty with Ph.D.	84
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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
	74		13		13				100	

2.4 No. of Guest and Visiting faculty and Temporary faculty	65	03	-
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2.5 Faculty participation in conferences and symposia:

No. of Faculty	International level	National level	State level
Attended	15	7	
Presented papers	163	8	
Resource Persons	7	3	

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

- CBCS regulations framed and implemented
- Conceive – Design – Implement – Operate (CDIO) curricular framework adopted and adapted
- Active Learning Method
 - Blended Learning
 - Problem Based Learning
 - Peer Instruction
 - Jig-Saw Method
 - Think-Pair-Share Method
 - Flipped Classroom
 - Gallery Walk
 - Mud card Method

Student classroom learning is measured immediately using response systems so-called clickers.

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

180

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

1. Double Valuation for PG Programmes
2. Photocopy of the answer sheet is provided to the students when applied for re-valuation
3. Our Question papers are set such a way to assess the course outcomes of the courses. The students are tested in the University examinations to make sure that all the course outcomes are met.
4. Bloom's Taxonomy is followed to specify the various knowledge levels of course outcomes in the cognitive domain

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

143

30

2.10 Average percentage of attendance of students

84

2.11 Course/Programme wise distribution of pass percentage:

Title of the Programme	Total no. of students appeared	Division				
		Distinction %	I %	II %	III %	Pass %
B.Tech - AERO	48	43.75	37.50			81.25
B.Tech - AUTO	25	20.00	56.00			76.00
B.Tech - CIVIL	69	26.09	44.93			71.01
B.Tech - CSE	101	20.79	46.53			67.33
B.Tech - ECE	102	21.57	51.96			73.53
B.Tech - EEE	38	21.05	65.79			86.84
B.Tech - IT	27	3.70	62.96			66.67
B.Tech - MECH	246	32.11	50.41			82.52

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

IQAC Organizing the teaching-learning and evaluation schedules as follows.

- Head of the departments monitors the academic progress as per the proposed schedule; deviation, if any, is reported to the Dean of schools.
- Faculty adhere to the proposed lecture plan and also regularly update their course file as well as log books; any deviation from the plan is monitored and rectified by Head of the departments.

Organizing Teaching Learning through the following process

Minutes of the Meeting of Course/Module Coordinator

Department : Semester :
Date of meeting: : Course code and course name :
Meeting Number : Meeting venue :

Meeting:1 should be conducted before the commencement of semester after subject allocation is done.

Agenda:

1. Overview of Course outcomes with course content.
2. Discussion on the observations made by the Course coordinator meetings of the
3. Previous academic year.
4. Identification of Content delivery and assessment methods.
5. Discussion on the Lecture plan and modification of the same including the topics to be covered by Guest Lecture/ Industrial visit/ workshops etc.
6. Identification of the requirement of learning resources.
7. Any other item

Meeting: 2 should be conducted after 15 days of the first meeting.

Agenda:

1. Action taken report of the previous meeting.
2. Discussion on the observations made by the HoD over the previous meeting.
3. Verification of 1st unit Course materials as per Lecture Plan including content delivery.
4. Discussion on the preparation of Assignment sheets.
5. Discussion on the preparation of Question Bank for competitive exams / GATE etc.
6. Discussion on the readiness of Course Orientation Presentation / material
7. Any other item

Meeting: 3 should be conducted after the completion of first unit as per academic calendar

Agenda:

1. Action taken report of the previous meeting.
2. Discussion on the observations made by the HoD over the previous meeting.
3. Verification of completion of syllabus with respect to the lesson plan.
4. Analysis of Students Performance in Unit Test-1.
5. Verification of Course materials for the unit –II & III.
6. Analysis of Online Students' feedback and any other issue.
7. Any other item

Meeting 4 should be conducted after the completion of second unit as per academic calendar.

Agenda:

1. Action taken report of the previous meetings.
2. Verification of completion of syllabus with respect to the lesson plan.
3. Analysis of Students Performance in Assignments.
4. Verification of Course materials for the unit –IV & V .
5. Any other item

Meeting 5 should be conducted after the result announcement of Midterm test-1

Agenda:

1. Action taken report of the previous meetings.
2. Analysis of Midterm test -I performance.
3. Attainment of Course outcomes based on the Unit Test-1, Midterm Test-1 and assignment
4. Any other item

Meeting 6 should be conducted after the completion of fourth unit as per academic calendar

Agenda:

1. Action taken report of the previous meetings.
2. Verification of completion of syllabus with respect to the lesson plan.
3. Analysis of Students Performance in Unit Test 2.
4. Analysis of Online Students' feedback and any other issue.
5. Discussions on the Design of Course exit survey to be deployed at the end of the semester.
6. Any other item

Meeting: 7 should be conducted after the declaration of end semester exam results.

Agenda:

1. Action taken report of the previous meetings.
2. Analysis of Course Outcome attainment based on the Direct Assessment and Course exit survey.
3. Identification of the changes / improvements to be brought in terms of course content / syllabus and content delivery based on the Course Outcome attainment / Course exit survey.
4. Discussion on the identification of the faculty "FDP" requirements based on the Course Outcome / course exit survey attainment level.
5. Reviewing on the Quality of CIA and End semester Examination Question papers.
6. Any other item

2.13 Initiatives undertaken towards faculty development

<i>Faculty / Staff Development Programmes</i>	<i>Number of faculty benefitted</i>
Refresher courses	-
UGC – Faculty Improvement Programme	-
HRD programmes	20
Orientation programmes	3
Faculty exchange programme	6
Staff training conducted by the university	210

Staff training conducted by other institutions	32
Summer / Winter schools, Workshops, etc.	121
Others	193

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	51	-	14	-
Technical Staff	84	-	42	-

Criterion – III

3. Research, Consultancy and Extension

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

Initiatives of the IQAC in Sensitizing/Promoting Research Climate in the institution is as follows

- a) Schools wise Research Advisory Committee, comprises of eminent Scientists / Researchers from various distinguished Government and Private Research labs such as DRDO, DST, CSIR, CDAC etc., This committee's responsibility is to mentor the faculty members and students towards R&D activities.
- b) R&D Review Committee for Individual Departments for assessing new Proposals from the Departments for the Guidance towards submission to funding agency and for the Seed Support. This committee is responsible for scrutinizing the project proposals before submitting it to the funding agencies.
- c) School Research Committee, Headed by the Dean of the School with faculty members from each school as a member of the committee along with the Dean of Research Studies for monitoring the Progress of the Research Scholars. The Dean (Research Studies), School Dean, Supervisor, Three internal faculty member and two external experts are part of this committee.

All the activities acquainted to research (of faculty) are taken care and monitored by the Director (Research & Development).

- The University has well established Research Park comprising various Industries supported Labs & Centers.
- Separate Lab Space with all the decisive infrastructures and amenities are being afforded to all the sponsored Projects and dynamic Researchers.
- The University bequeaths the basic infrastructure for starting the research.
- Provision for seed money for starting research before submission to the funding agency
- The University supports with the funds for the sanctioned projects, even if any detains are there to receive fund from funding agency.
- The University provides complete support for the smooth running of the project, even if the subsequent release of the funds (2rd and 3rd instalments) gets delayed.
- The Principal investigator has the autonomy for the utilization of the Funds received from Funding Agencies.
- The University also supports in terms of additional funding for expanding the infrastructure that are obligatory for the project.
- Procurement of instruments and necessary consumables, as spotted in the project are given preferences and are facilitated by the purchase committee of the university.
- The Director (Research) office helps the Principal Investigator for preparing

the balance sheet and for auditing the finance statement by an external auditor. The office also makes the utilization certificate to be made available on-time for the submission to the funding authorities, normally made along with the project progress report.

- Various efficacious Research forums are launched under the mentorship of faculty and external experts for motivating the research mores among the Students.

3.2 Details regarding major projects

	Completed	Ongoing	Sanctioned	Submitted
Number	3	13	6	22
Outlay in Rs. Lakhs	65.1901	659.82674	339.02697	1696.83

3.3 Details regarding minor projects

	Completed	Ongoing	Sanctioned	Submitted
Number	NIL	NIL	NIL	-
Outlay in Rs. Lakhs	NIL	NIL	NIL	-

3.4 Details on research publications

	International	National	Others
Peer Review Journals	440	66	-
Non-Peer Review Journals	136	47	-
e-Journals	-	-	-
Conference proceedings	28	7	-

3.5 Details on Impact factor of publications:

Range	0.016-11.176	Average	5.59	h-index	52	Nos. in SCOPUS	440
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3.6 Research funds sanctioned and received from various funding agencies, industry and other organisations

Nature of the Project	Duration Year	Name of the funding Agency	Total grant sanctioned	Received in Lakh
Major projects	2015-16	DRDO ARMREB, DST, UGC-DAE, DST-TBI	339.02697	326.28031
Minor Projects	2015-16	NIL	NIL	NIL
Interdisciplinary Projects	2015-16	MSME, DST, DRDO	NIL	30.26302
Industry sponsored	2015-16	DRDO, Quest, EDS, Altem Technologies, ICTACT, TSS, NI, Geebee Tech, Goethe Institute, Vel Tech TBI, EDI, DST, Francecol	43.31	43.31183

Projects sponsored by the University/ College	2015-16		NIL	NIL
Students research projects <i>(other than compulsory by the University)</i>	2015-16	24	605947	6.05947
Any other(Specify)				
Total				405.91463

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

ii) Without ISBN No.

3.8 No. of University Departments receiving funds from

UGC-SAP CAS DST-FIST

DPE DBT Scheme/funds

3.9 For colleges

Autonomy CPE DBT Star Scheme

INSPIRE CE Any Other (specify)

3.10 Revenue generated through consultancy

3.11 No. of conferences organized by the Institution	Level	International	National	State	University	College
	Number	1	4			
	Sponsoring agencies	-	-			

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

3.13 No. of collaborations International National Any other

3.14 No. of linkages created during this year

3.15 Total budget for research for current year in lakhs:

From Funding agency From Management of University/College

Total

3.16 No. of patents received this year

Type of Patent		Number
National	Applied	24
	Granted	-
International	Applied	-
	Granted	-
Commercialised	Applied	-
	Granted	-

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

Total	International	National	State	University	Dist	College
23	1	5	2	15	-	-

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

84

and students registered under them

222

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

5

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

JRF 12 SRF 1 Project Fellows - Any other -

3.21 No. of students Participated in NSS events:

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

3.22 No. of students participated in NCC events:

University level 104 State level 11
National level 2 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	1
National level	2	International level	-

3.25 No. of Extension activities organized

University forum	-	College forum	-		
NCC	6	NSS	24	Any other	-

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

The following Major activities are conducted during this Academic Year.

1. Tree Plantations at nearby villages and inside the campus,
2. E-Waste Collection Rally – HVF,CVRDE Quarters,
3. Participation in Mega Yoga session conducted by ISHA yoga foundation in YMCA ground,
4. White wash of Free Tailoring unit in Kanniyamman Nagar,
5. Blood Donation Camp,
6. Swatch Bharath,
7. Free Tailoring unit & Free Tuition centre in Kanniyamman Nagar,
8. National Safety Day, Earth Sustainability - EARTH DAY.

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	52.03 acres	-	University Funds	52.03 acres
Class rooms	75	-		75
Laboratories	20	2		22
Seminar Halls	11	3		14
No. of important equipments purchased (\geq 1-0 lakh) during the current year.	Computers, Lab equipments furniture & fixtures, Water coolers	Computers, Lab equipments furniture & fixtures, student amenities		
Value of the equipment purchased during the year (Rs. in Lakhs)	19.21 (in Crores)	32.75 (in Lakhs)		19.54 (in Crores)
Others	-			

4.2 Computerization of administration and library

The University Management System and ERP modules have been implemented at academic and administrative level to enhance the efficiency of the administrative and academic system. The Library is RFID supported. All the processes are online from admissions to declaration of results. The Library records are online. The University provides different logins for Students Login, Parents Login and Faculty Login to view and enter the Personal, Attendance & Semester Wise Mark Sheet. The student mark entry and period wise attendance are computerized.

4.3 Library services:

	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books	81359	2,73,31,380.00	3037	11,03,243.00	84396	2,84,34,623.00
Reference Books	2950	9,88,250.00	175	63,525.00	3125	10,51,775.00
e-Books	-	-	45000	1,50,000.00	45000	1,50,000.00
Journals	974	32,68,076.00	155	4,43,700.00	1129	37,11,776.00
e-Journals	12700	58,55,811.00	199	7,35,942.00	12899	65,91,753.00
Digital Database	2	28,56,270.00	1	17,37,563.00	3	45,93,833.00
CD & Video	3261	-	939	-	4200	-
Others (specify) RFID	-	-	1	8,98,110.00	1	8,98,110.00

Kindle	-	-	20	2,34,960.00	20	2,34,960.00
Library Software	-	-	1	55,000.00	1	55,000.00
Computers	25	6,25,000.00	65	19,50,000.00	90	25,75,000.00

4.4 Technology up gradation (overall)

	Total Computers	Computer Labs	Internet	Browsing Centres	Computer Centres	Office	Departments	Others
Existing	1367	903	Provided on all workstations in Computer Lab	Part of Computer Lab	116	132	216	(Printers, plotters, Scanners, Xerox machines) All faculty are Provided with Individual laptops
Added	107	75	-	-	31	-	1	-
Total	1474	978	-	-	147	132	217	-

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

The faculties have been provided with computer facility for effective teaching and access to quality study and reference material. Extension of optical fiber backbone and installation of switches in all departments and administrative buildings have enabled all these departments /Creation of inside University campus enables students to use internet on laptops. University has also upgraded its Firewall, core switches and internet bandwidth due to the increase in usage of browsing gadgets by the students. Computers, Internet access, training to teachers and students and other programme for technology up-gradation. The University provides Wi-Fi hot-spots in both inside the campus and in the Hostels.

4.6 Amount spent on maintenance in lakhs :

i) ICT	6.59
ii) Campus Infrastructure and facilities	150.90
iii) Equipments	12.95
iv) Others	20.03
Total :	190.47

Criterion – V

5. Student Support and Progression

5.1 Contribution of IQAC in enhancing awareness about Student Support Services

The IQAC Committee has been constituted by the Vice Chancellor including Members of the Management, Administrative Officers, Members nominated from Senior Teachers, Members nominated from Employers /Industrialist/ Stakeholders, Members nominated from local society, students and alumni and Director IQAC. The Student support Services are primarily looked after by the Head of the Departments. Introduction of student centric welfare schemes, addressing various requirements of residential students and providing necessary support system for student related issues are managed by the Head of the Department in consultation with Directors and Faculties, wardens of the Hostels and Student representatives. IAQC contributes in enhancing awareness about student support services through organising awareness programmes time to time in the university .The department takes care of career counselling, skill development etc. Motivational lectures, orientation programmes are arranged.

- Mentors for monitoring the progress of the student in attendance, studies and extracurricular activities and provide necessary counseling and support.
- The University is providing various committee for students SPARSH (Sensitization, Prevention and Redressal of Sexual Harassment)
- Anti-ragging Committee, Disciplinary Committee, & Grievances and Redressal committee and Students Council Committee,
- Student feedback system
- Students are at liberty to write their complaints and drop it in it for further action. The drop boxes are checked periodically and remedial actions are carried out to resolve the issue.

5.2 Efforts made by the institution for tracking the progression

Mentoring system is followed in our University by deputing one faculty for 15 students and all the students' problems are addressable through mentors. The mentors have been tracking each student in University with their Academic Performance and other related details. The student counsellor has been also specially handling the students' problems in both hostel & in campus. The hostel student has been attached by Warden, Professor Incharge and Provost to take care of the students and to counsel them for homesickness and other Academic activities. Special classes also been conducted for weak students to improve their academic performance.

5.3 (a) Total Number of students	UG	PG	Ph. D.	Others
	3613	351	222	-

(b) No. of students outside the state

(c) No. of international students

Men	No	%	Women	No	%

Last Year						This Year					
General	SC	ST	OBC	Physically Challenged	Total	General	SC	ST	OBC	Physically Challenged	Total
1353	290	64	2053	NIL	3760	1370	305	75	2436	NIL	4186

Demand ratio Dropout %

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

The details of student support mechanism for coaching for competitive examinations and personal guidance by the faculty members for GATE and from other Training Institution for Civil Services (UPSC) and other competitive examinations.

5.5 No. of students qualified in these examinations

NET SET/SLET GATE CAT
 IAS/IPS etc State PSC UPSC Others

5.6 Details of student counselling and career guidance

Counselling is carried out for assisting, guiding and supporting the student community. Directing students to achieve their personal goals and steer them towards academic excellence and emotional stability are the major objectives of counselling. The number of students counselled in the University and different hostels of the University are furnished below:

Place	2015-16
Vel Tech University	130

	International/Lords Hostel	135	
	Queens Hostel	233	
	Prince Hostel	11	

No. of students benefitted 509

5.7 Details of campus placement

<i>On campus</i>			<i>Off Campus</i>
Number of Organizations Visited	Number of Students Participated	Number of Students Placed	Number of Students Placed
25	416	349	21

5.8 Details of gender sensitization programmes

S.NO	PROGRAMME NAME	DATE	LOCATION
1	Women's Day Celebration	10.03.2015	VTU, Campus
2	Stay Stress Free	29.04.2015	VTU, Campus
3	Participation in Mega Yoga session conducted by ISHA yoga foundation in YMCA ground	21.06.2015	YMCA Ground
4	Education Leads the Future	10.07.2015	VTU, Campus
5	International Youth Day	12.08.2015	VTU, Campus
6	Topic : Is Young Generation of India having Heritage Consciousness	14.08.2015	VTU, Campus
7	Topic : Youth's Civic Responsibility	28.08.2015	VTU, Campus
8	International Charity Day-Feed the Need	03.09.2015	VTU, Campus
9	Chennai times "Fresh Face"	09.09.2015	VTU, Campus
10	National Unity Day	31.10.2015	VTU, Campus
11	Demonstration in Yoga	21.06.2016	VTU, Campus
12	National Institute of Visually Handicapped (NIVH)	18.07.2016 to 25.07.2016	Poonamalle
13	Friendship Day	07.08.2016	Vellanoor
14	Anti-ragging	10.08.2016	VTU CAMPUS

5.9 Students Activities

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

State/ University level 63 National level 18 International level 1

No. of students participated in cultural events

State/ University level 200 National level 3 International level 0

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

Sports: State/ University level National level International level

Cultural: State/ University level National level International level

5.10 Scholarships and Financial Support

	Number of students	Name of the Scholarship	Amount
Financial support from institution	1550	Veltech Mahatma Gandhi National Merit Scholarship	Rs. 67591355
Financial support from government	a. 6 students Approved b. 8 Approved c. 9 Applied	a. MOMA Scholarship – 6 students Approved b. E-Kalyan – 8 Approved c. E-Kalyan – 9 Applied	50000 each for E-Kalyan
Financial support from other sources			
Number of students who received International/ National recognitions	1	Nagoya Institute of Technology, Japan-Brothers Scholarship for Higher Studies	JPY 80000/- per month

5.11 Student organised / initiatives

Fairs: State/ University level National level International level

Exhibition: State/ University level National level International level

5.12 No. of social initiatives undertaken by the students

5.13 Major grievances of students (if any) redressed:

- Issues regarding dispute between students staying in the same hostel room was redressed. An enquiry was conducted and the students were counselled and encouraged to come to agreement with each other.
- Students who exhibit behavioural misconduct in the classroom are counselled by the mentors. By the active and integrated effort of the mentor, counsellor and the parents of the students, the student is persuaded to focus on their academics and pursue their studies well.

Criterion – VI

6. Governance, Leadership and Management

6.1 State the Vision and Mission of the institution

Vision

To create, translate and share frontiers of knowledge embedded with wisdom and innovation for a positive transformation of emerging society.

Mission

To nurture excellence in teaching, learning, creativity and research; translate knowledge into practice; foster multidisciplinary research across science, medicine, engineering, technology and humanities; incubate entrepreneurship; instill integrity and honor; inculcate scholarly leadership towards global competence and growth beyond self in a serene, inclusive and free academic environment.

6.2 Does the Institution has a management Information System

YES

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

6.3.1 Curriculum Development

- Curriculum development based on **Outcome Based Education**
 - ✓ Clear and achievable learning outcomes defined as per Bloom’s Taxonomy.
 - ✓ Selection and organization of the course content in-line with the achievement of learning outcomes.
 - ✓ Identification of appropriate teaching and assessment methods.
 - ✓ Focus on the achievement of programme outcomes as well as graduate attributes.
- Curriculum development based on **Choice Based Credit System**

CBCS is designed to explore more transformational approaches to modify and ready themselves for new era. Our CBCS offers **6 degree choices** like

 - (i) Course Choice within the program
 - (ii) Semester Choice
 - (iii) Faculty Choice
 - (iv) Inter-program / Department / School level course choice

- (v) Inter-Institute level course choice and
- (vi) MOOC course choice

- Designed by the involvement of various stakeholders such as faculty, industrial experts, external academic experts and alumni members

6.3.2 Teaching and Learning

- The two best innovative teaching and learning methods employed in our university are **Outcome Based Education (OBE)** and **Choice Based Credit System (CBCS)** where the focus of education has shifted from the educator to learner and also in flexibility in choosing programs and encourages learners to accomplish all fundamental graduate attributes and ensure continuous professional development and lifelong learning skills.
- **Active Learning Methods**
 - Blended Learning
 - Problem Based Learning
 - Peer Instruction
 - Jig-Saw Method
 - MOOCs
 - Think-Pair-Share Method
 - Flipped Classroom
 - Gallery Walk
 - Mud card Method

6.3.3 Examination and Evaluation

Examination

1. One question paper would be chosen randomly by VC/COE on the examination day or the previous day of the examination.
2. Question papers are scrutinized by the experts on its quality and whether the outcome is met and the coverage of entire syllabus.

Evaluation

3. Dummy Number evaluation with the dummy numbers allotted randomly and not in serial order.
4. Tabulators are employed for Practical and Theory examinations. These tabulators would cross check whether the marks entered against each and every question and also the total marks.
5. The marks would be entered by the examiners online and also in the foil card for both Practical and Theory examinations. The index page of these evaluated answer scripts would be scanned and cross verified with the marks entered by the examiners online.

6.3.4 Research and Development

- The University has well established Research Park comprising various Industries supported Labs & Centers.
- Separate Lab Space with all the decisive infrastructures and amenities are being afforded to all the sponsored Projects and dynamic Researchers.
- The University bequeaths the basic infrastructure for starting the research.
- Provision for seed money for starting research before submission to the funding agency.
- The University supports with the funds for the sanctioned projects, even if any details are there to receive fund from funding agency.
- The University provides complete support for the smooth running of the project, even if the subsequent release of the funds (2rd and 3rd instalments) gets delayed.
- The Principal investigator has the autonomy for the utilization of the Funds received from Funding Agencies.
- The University also supports in terms of additional funding for expanding the infrastructure that are obligatory for the project.
- Procurement of instruments and necessary consumables, as spotted in the project are given preferences and are facilitated by the purchase committee of the university.
- The Director (Research) office helps the Principal Investigator for preparing the balance sheet and for auditing the finance statement by an external auditor. The office also makes the utilization certificate to be made available on-time for the submission to the funding authorities, normally made along with the project progress report.
- Various efficacious Research forums are launched under the mentorship of faculty and external experts for motivating the research mores among the Students.

6.3.5 Library, ICT and physical infrastructure / instrumentation

The **Central Library and department libraries** are constantly equipped with latest arrivals. The increased hours from 8am to 8pm (Including Sundays) accessibility to the Central Library with more than 87521 books and a number of journals, magazines, weeklies and news papers in different languages. University faculties and students can avail NPTL facilities from our Central Library. NPTEL provides E-learning through online Web and Video courses in Engineering, Science and humanities streams. The mission of NPTEL is to enhance the quality of engineering education in the country by providing free online courseware.

The Computer Lab and ICT facilities: University is providing ICT facilities. The internet facility is available in all the departments and hostels. The Cyber Library is providing the much needed e-learning space to the university community. It has come up as an important landmark in the teaching-learning and research field of the University. The University provides 24 x 7 Internet, Wi-Fi facility in campus and in hostels, CCTV surveillance services.

6.3.6 Human Resource Management

The human resource management policies of the University are in compliance with UGC regulations and State Govt. guidelines. The appointment and promotions are made in transparent manner and as per defined and notified criterion. The organizational hierarchy of the University is well defined in which the job profile and job description in each and every office is clear to all stakeholders. The governance and administration of the University is professional and also as per the spirit of the Act and Statutes which results into higher level of satisfaction especially amongst the students and scholars and staff of the University. The faculty is provided opportunities to organize and attend seminars and conferences at national and international level. Grant is provided to fund the travel partially. Faculty Development programmes is organized to equip the teachers with latest academic and research tools.

6.3.7 Faculty and Staff recruitment

The University Selection Committee is headed by the Vice Chancellor, Pro-Vice Chancellor, Registrar, Director Academics and other Heads of the Department. There is a established and transparent procedure for the faculty and staff recruitment in the University, the UGC regulations for staff recruitment are followed with the guidelines.

6.3.8 Industry Interaction / Collaboration

The University has a strong Industrial-Institutional-Interaction. So far, Interaction with 2719 Industries / Institutes / Organisations were established. The University – Industry Interaction cell is established with the following functional outcomes:

1. Enabling the faculty to industry relevant research
2. Setting up the Centers of Excellence with Industry as Partner
3. Active Involvement of Industry in Curriculum Design
4. Enabling Students to take up Internships / Research Works in Global / National Centers. Till date more than 5069 Internship in Industries were arranged.
5. 10 PG Program are direct outcomes of University – Industry Partnerships.

6.3.9 Admission of Students

Admissions of students are done once in a year on the basis of All India Common Engineering Entrance Examination conducted by the University. The Entrance test is conducted both by Paper & Pencil Test (PPT) & Computer Based Test (CBT). Reservation Policy for SC/ST/OBC and Physically Challenged candidates will be applicable as per the rules of Government of India for the time being.

6.4 Welfare schemes for

Teaching	✓
Non teaching	✓
Students	✓

- Employment Provident Fund & Gratuity
- Group Insurance
- Staff quarters facility
- Interest free Loan facility from staff welfare fund
- Accidental Policy with United India Assurance for Employees
- Basic Pay scales based on 6th Pay Commission recommendations
- Annual Ph.D. Allowance for faculty
- One month Salary as special Pay to Staff Members for Continuous Service
- Sabbatical Leave to pursue Higher Education / Research
- Higher increments for those who perform well
- Laptops are issued to Faculty members while at service to pursue Research and Development work
- Mother Fund scheme to all faculty
- Faculty members are encouraged to take up consultancy, projects and research work with special incentive
- Faculty members are sponsored to present papers in conferences abroad periodically.
- Maternity leave
- Scholarship for staff Children
- 70% of the faculty and staff benefited out of various employee welfare schemes
- Gym and Fitness in both students Gents and Ladies Hostel
- Vel Tech Mahatma Gandhi National Merit Scholarship for meritorious students
- Education Loan assistance
- Tie – up with nearby Hospital for immediate medical attention at concession al rates
- Bonvoyage amount for higher studies in abroad.

6.5 Total corpus fund generated

1648.65 (In Lakh)

6.6 Whether annual financial audit has been done

Yes

NO

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

Audit Type	External		Internal	
	Yes/No	Agency	Yes/No	Authority
Academic	Yes	AISHE	Yes	Academic Auditor
Administrative	Yes	-	Yes	Administrative Auditor

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

For UG Programmes Yes NO

For PG Programmes Yes NO

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

1. Photocopy of the term end examination answer scripts would be provided to the students on request.
2. If a student not happy with the revaluation result, then he can apply for Challenge Evaluation where his paper would be evaluated by an internal examiner and an external examiner from other University.
3. Question papers are scrutinized by the experts on its quality and whether the outcome is met and the coverage of entire syllabus.
4. 66.67% of UG question papers are set by the external experts approved by Board of Studies.
5. Results are announced within 15 days from the last examination.
6. Special examination is conducted for the students those who have arrear in only one subjects upon the completion of 8 semesters.

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

Not Applicable

6.11 Activities and support from the Alumni Association

- ANNUAL ALUMNI MEET – JAN 26, 2016
- Alumni Reunion - Bangalore Chapter Aug 20, 2016
- 2006 Decennial celebration – Chennai Chapter May 28th, 2016
- We interact with our juniors through Skype and we visit the campus and we have interactive session to increase their knowledge in Industry practice and Higher education and Entrepreneurship
- Alumni association fund are utilized for providing Bonvoyage Scholarship to our juniors.
- Alumni are helping for enabling placement and Internship for students.
- University involves alumni in the governance bodies of the university
- University united option of the alumni online and kick off meeting was well popularized through Facebook and Whatsapp.
- Alumni involved in curriculum development, format of university is very precise.

- University collects through us our employee feedback and these inputs enter in the system of curriculum development for the benefits of our juniors.
- Alumni association is registered; we are member of alumni association. The AGM took place on Jan 26th, 2016
- Alumni help in 2nd Strategic planning process of University in next 10 years.

6.12 Activities and support from the Parent – Teacher Association

- Parent – Teacher meeting will be arranged once in a semester by each school.
- Parents will meet the respective mentor assigned to their ward on the day of meeting and will come to know the academic performance and other details about the ward.
- Parents can express their views with the mentor, HoD and Dean.

6.13 Development programmes for support staff

The University conducts several training and development programmes for skill upgradation of supporting staff of the University. The training programmes are being organized for mid level and senior level supporting staff. Workshops on Yoga and stress management are also organized. The University organizes during all main functions.

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

The University is committed for environmental protection and various steps have been undertaken to make the campus eco-friendly. Solar water heating systems are used; CFL and LED lights are used in all the teaching and offices of the departments. The University has the Sewerage Treatment Plant of waste water for reuse for its irrigational purpose. Plantation programmes are organized in the campus on regular basis. The Earth Day, Environment Day, are celebrated and workshops, seminars are organized on environment awareness by the University Club Committee. The NSS and NCC volunteers are regularly conducting Swachh Bharat programmes in the campus and the public places periodically. They are also providing additional inputs to the school children in Science and Mathematics courses under Rastriya Avishkar Abhiyan. The University student Clubs play the main role to ensure sustained public participation in the Swachh Bharat.

Criterion – VII

7. Innovations and Best Practices

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

- Started implementing CDIO curricular framework for the B.Tech Engineering programmes.
 - Freshman Engineering project was introduced on three different themes
 1. Environmental Conservation
 2. Energy Conservation
 3. Public Safety
- Teaching Developers Initiative (TDI)
 - TDI was founded – 15 weeks meetings conducted – faculty shared their classroom experience – TDI day celebrated at the end of the academic year

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

NAAC

- Accredited by NAAC with A grade with CGPA 3.17

NBA

- Extended one more year for NBA accreditation for two programs.
- Pre-visit Qualifiers submitted to NBA for four B.Tech Engineering programs. Self Appraisal Report (SAR) presentation is under way

CDIO

- Became first CDIO member from India in the Asian regional meeting held at Yanshan University, China
- Established CDIO workspace
- Introduced one credit course “FME Project”. 173 batches of 987
- About 40 teams of students did IO project.

Choice Based Credit System (CBCS)

- Academic Regulations Framed

Active Learning

- Established seven workspaces for Active Learning

- About 200 faculty members were attended training on Active Learning
- 20% of the course delivery has made through Active Learning

Teaching Developers Initiative (TDI)

- 14 faculty members met 15 weeks and share their classroom experience, vis-a-vis implementation of innovative teaching methods
- TDI Day: An open house was conducted

Rankings / Ratings

- Data / details uploaded in DCF of NIRF portal for two categories namely (i).Overall (ii).Engineering for NIRF India Rankings 2017
- Registration completed for Times Higher Education (THE) Asian Ranking 2017

Our professors visited the following institutions to observe their best practices.

- National University of Singapore
- Singapore Polytechnic
- Singapore University of Technology and Design
- Universiti Kebangsaan Malaysia
- Taylor's University Malaysia
- UiTM, Malaysia
- Multimedia University, Malaysia
- Chengdu University of information technology, China
- Yanshan university, China
- Chalmers university of technology, Sweden
- Turku university of applied sciences, Finland

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

- Best Practice I : Industry–University Interaction/Partnership/ Collaboration (Annexure I)
- Best Practice II : Name of the Best Practice: Outcome Based Education (Annexure II)

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

7.4 Contribution to environmental awareness / protection

- Green audit of the campus is carried out by the staff periodically by supervising the

maintenance of the existing trees and locating places for planting new trees.

- Tree plantation is periodically done to provide a congenial atmosphere.
- From the guidance of our Honourable Prime Minister Narendra Modi, Swachh Bharat was initiated in our University campus. The Sole message in swachh bharat is to keep our premises clean. Routine Auditing is done.

7.5 Whether environmental audit was conducted?

Yes

NO

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

- Outcome based curriculum and syllabi, teaching-learning and assessment and evaluation to achieve the programme outcomes in accordance with national as well as global standards (NBA, Washington Accord and other member countries of WA etc).
- Flexible curriculum to accommodate wide range of educational activities like industrial visits, internships, semester abroad programmes, etc.
- Choice Based Credit System from academic year 2015-16 onwards
- Well structured, systematic teaching learning and evaluation methods (Bloom's and Dave's Taxonomy) for attainment of programme outcomes in accordance with national as well as global standards
- Young faculty members using Active Learning Methods for teaching learning
- Vibrant Industry – Institute Interaction
- Renowned projects in association with reputed R&D Organisations and Industries like DST, DRDO, IGCAR, Daimler-India, etc.
- Dynamic international relations through active MOUs with renowned R&D labs and academic institutions in India as well as abroad.
- State-of-the-art Centres of Excellences for e-waste management, engine testing, 3D Printing etc.
- Adequate rooms/ facilities available for staffs and students to satisfy academic, research and extracurricular requirements.
- Each academic school consists of several state-of-the-art laboratories to provide academic and research support to students as well as faculty. There are more than 50 labs for various

disciplines with sophisticated instruments, furniture, and other facilities.

- State-of-the-art library with subscription to reputed international journals and access to OCW.
- Well equipped laboratories for UG, PG as well as Research Scholars
- Strong motivation to students to organize and participate in wide range of co-curricular and extracurricular activities at all levels.
- Department of Physical Education proactively encourages the students to participate extensively in the various forms of games, track & field events and adventure sports at all levels.
- Student's involvement in all councils, committees, academic and administrative boards to discuss and provide help in their welfare, performance and achievements.
- Excellent placement and training support for holistic development of the individual for personal enhancement and career growth
- Strong mentoring system to provide valuable services to students by counselling and guiding them in their academic and non-academic needs.

8. Plans of institution for next year

- Getting NBA accreditation for four B.Tech programmes namely;
 1. Automobile Engineering
 2. Civil Engineering
 3. Computer Science and Engineering
 4. Electronics and Communication Engineering
- Applying ABET accreditation for B.Tech-Mechanical Engineering
- Establishing two more Implement-Operate engineering workspaces.
- Curriculum and Teaching-Learning
 - Combining Introduction to Engineering, FME Project and Engineering Practices Laboratory as a single Integrated Course focusing on Engineering skills.
 - Introducing Project-based learning for more number of courses.
 - 40% of the course delivery through Active Learning Methods.
- Participating in Times Higher Education (THE) Ranking and QS star Ratings
- Participating in national Rankings and Ratings
- Presenting research papers on educational quality / curriculum development / teaching-learning at international conferences

Name Abudhahir 23/12/16
Prof. Dr. A. Abudhahir
Director Quality Assurance
Veltech Dr. RR & Dr. SR University
Unit 17 of UGC Act, 1956
Signature of the Coordinator, IQAC

Name Beela Satyanarayana
Prof. Dr. Beela Satyanarayana
Vice Chancellor
Veltech Dr. RR & Dr. SR University
Unit 17 of UGC Act, 1956
Signature of the Chairperson, IQAC

Annexure I

Name of the best practice: Industry–University Interaction/Partnership/ Collaboration

- **Motivation & Objective**

- To Make the Teaching and Learning Practices industry centric such that suitability & employability of students for industry positions are enhanced
- To acquaint faculty with contemporary industry practices such that OBE practices are augmented and faculty gets opportunity to work on problem with technological and societal relevance.
- To enable the university in development of infrastructure {laboratories & Centre of excellence} that reflect the industry practices and requirements

- **Targeted Outcomes**

- Initiation of minimum of 20 programmes at UG & PG level with industry partnership in core domain.
- Enabling the placement of students in diversified industries {MNCs, Medium Industries, Start ups}
- To take-up consultancy projects, develop infrastructure and create revenue surplus.
- To establish Center of excellence reflecting the cutting edge technology solutions.
- To provide 100% internship opportunities to all the UG & PG students
- To enhance the visibility of university in global and national platforms.
- To enhance the skill competence of the faculty minimum ten per year
- To enable joint research proposal with partners from India and Abroad and generate IP
- To introduce value added courses/electives.
- To enable participation in national competition/global calls for achieving award and recognition

- **Attained Outcomes**

- Initiation of minimum of 20 programmes at UG & PG level with industry partnership in core domain – 10 PG programmes are introduced
- Enabling the placement of students in diversified industries {MNCs, Medium Industries, Start ups} – 70 percentage of the students are placed in MNCs, Medium industries and startups
- To take-up consultancy projects, develop infrastructure and create revenue surplus – 47 lakhs worth of consultancy project are taken up
- To establish Center of excellence reflecting the cutting edge technology solutions – Center of excellence in Virtual instrumentation, Design and analysis, Bearing testing, automotive engine testing, E- Waste management were established
- To provide 100% internship opportunities to all the UG & PG students – more than 90% of the UG students are deputed for internship
- To enhance the visibility of university in global and national platforms – Students are regularly sent for internship to international R & D labs ,Universities, industries and R & D labs nationally

- To enhance the skill competence of the faculty minimum ten per year – started sending faculty for industrial training
- To enable joint research proposal with partners from India and Abroad and generate IP –
 - Submitted more than 10 proposal with international partner and two projects are on going
 - Submitted more than 15 proposal with national partners and 7 projects are on going
- To introduce value added courses/electives – As of now 14 value added course and 10 industry recommended electives was introduced
- To enable participation in national competition/global calls for achieving award and recognition- Regularly participating and winning in the international competition held in various countries(South Korea, Germany, USA) .SIRO recognition for the research facilities , recognition from DST and MSME for Business incubator
- **Inconveniences /problem encountered**
 - Severe competition with the students group from newly formed NITs/IITs/ Government Universities
 - Challenges in retention of trained faculty
 - Inadequate number of resource persons with industry experience.
 - Lack of sufficient support mechanism (TEQIP, UGC, MHRD etc) for sustaining capital intensive program of Deemed University.
- **Further Enhancement Plan**
 - Seeking support from national industries, so that we can generate joint IP for global markets
 - To introduce CBCS such that industry takes the proactive role in designing and implementing elective subject right from the formative semesters.

Contribute to the inclusive growth of the university ecosystem based on the practices where integrated teaching and practice methodology are introduced in the class room.

Annexure II

Name of the Best Practice: Outcome Based Education

- **Motivation**

NASSCOM Survey says that, less than 25% of the Engineering graduates are directly employable in the industries. The students' employers felt that the graduates are lacking in disciplinary knowledge, professional and personal skill, interpersonal skills and design-implement-experience. The traditional engineering education system, what we have followed during last few decades, primarily gives much importance to lower order thinking skills (Remembering, understanding and applying) of cognitive domain Blooms Taxonomy. Also it is inferred that the transferable skills (Communication, team work, lifelong learning, ethical practice and project management), required to perform in the engineering profession, are not imparted through the curriculum of traditional education. In order to circumvent these issues, the University administration decided to implement Outcome Based Education (OBE).

- **Objectives**

- To develop more employable, entrepreneurs and innovative graduates with professional and soft skills, social responsibility and ethics
- To promote mobility and quality assurance of graduate students across international boundaries.
- To bring more international faculty for teaching and interactive sessions with students to impart the best professional practices and global marketing challenges

- **Targeted Outcomes**

At the time of graduation, students will be able to

- Do more challenging tasks other than memorize and reproduce what was taught.
- Write project proposals, complete projects, analyze case studies, give case presentations, show their abilities to think, question, research, and make decisions based on the findings.
- Be more creative, able to analyze and synthesize information.
- Plan and organize tasks, work as an individual and in a team, communicate effectively and manage projects in multidisciplinary environments.

- **Attained Outcomes**

By implementing, the following outcomes were recognized:

- Assessment of knowledge and skill levels of students in various aspects
- Improvement in the results and pass percentage of students
- Students acquire not only sound understanding of theory, but also a number of practical skills on related subjects.
- Students acquired knowledge on real world applications
- Students have successfully competed in global market for pursuing higher education as well as other career options.

- Students have constantly participated and won several awards in national and international interdisciplinary design competitions.
- **Inconveniences / Problems encountered**
 - Re-tasking the existing laboratories as workspaces to provide more design-implementation skills to the students
 - Need fully computerized examination and evaluation processes
 - Inadequate information to assess the attainment of PEOs based on the diversified employment and research activities of passed out students
- **Further enhancement plans:**
 - Choice based credit system with option to choose from a wide range of course categories
 - Introduction of more industry, research and entrepreneurship based courses at UG and PG levels
 - Introduction of more multidisciplinary courses at UG and PG levels
 - Introduction of more innovative active learning processes
 - Enhancement of more tie-ups and participative interactions with globally reputed institutions and organisations.