Annual Quality Assurance Report

for

Academic Year 2017 – 2018

Submitted by

Bansilal Ramnath Agarwal Charitable Trust's

VISHWAKARMA INSTITUTE OF TECHNOLOGY

666, Upper Indiranagar, Bibwewadi, Pune – 411 037

(An Autonomous Institute Affiliated to Savitribai Phule Pune University)

Submitted to

राष्ट्रीय मूल्यांकन एवं प्रत्यायन परिषद्

विश्वविद्यालय अनुदान आयोग का स्वायत्त संस्थान

NATIONAL ASSESSMENT AND ACCREDITATION COUNCIL

An Autonomous Institution of the University Grants Commission

P. O. Box. No. 1075, Opp: NLSIU, Nagarbhavi, Bangalore - 560 072 India

The Annual Quality Assurance Report (AQAR) of the IQAC for Academic Year 2017-18

Part – A

1. Details of the Institution

1.1 Name of the Institution

> BRACT's Vishwakarma Institute of Technology

1.2 Address Line 1

> 666, Upper Indira Nagar,

Address Line 2

> Bibwewadi,

City/Town

> Pune

State

> Maharashtra

Pin Code

> 411 037

Institution e-mail address

> director@vit.edu

Contact Nos.

> 91 20 24202238 (Dean Quality Assurance)

Name of the Head of the Institution:

> Prof. (Dr.) R.M. Jalnekar

Tel. No. with STD Code:

> 91 20 24202221

Mobile:

> 9552544489

Name of the IQAC Co-ordinator:

Prof. A.S. Marathe

Mobile:

9822418794

IQAC e-mail address:

ashutosh.marathe@vit.edu

1.3 **NAAC Track ID** *(For ex. MHCOGN 18879)*

EC/64/A&A/02   dated 08.07.2013

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/64/A&A/02   dated 08.07.2013

1.5 Website address:

www.vit.edu

Web-link of the AQAR:

http://www.vit.edu/images/PDF/AQAR_2017_18.pdf

1.6 Accreditation Details

Sl. No.	Cycle	Grade	CGPA	Year of Accreditation	Validity Period
1	1st Cycle	A	3.29	2013	5 yrs.

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

26.07.2013

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

2017-18

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 2013-14 submitted to NAAC on 14-08-2014
   ii. AQAR 2014-15 submitted to NAAC on 21-08-2015
   iii. AQAR 2015-16 submitted to NAAC on 19-08-2016
   iv. AQAR 2016-17 submitted to NAAC on 19-08-2016

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 [ ]

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

Type of Institution   Co-education [√]   Men [ ]   Women [ ]

                      Urban [√]   Rural [ ]   Tribal [ ]

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

                   Grant-in-aid + Self Financing [ ]   Totally Self-financing [√]

1.11 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)*

| Savitribai Phule Pune University |

1.13 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 | | Any other (*Specify*) | |

UGC-COP Programmes | |

2. IQAC Composition and Activities

2.1 No. of Teachers | 09 |

2.2 No. of Administrative/Technical staff | 05 |

2.3 No. of students | 02 |

2.4 No. of Management representatives | 01 |

2.5 No. of Alumni | NIL |

2. 6 No. of any other stakeholder and

community representatives | NIL |

2.7 No. of Employers/ Industrialists | NIL |

2.8 No. of other External Experts [01]

2.9 Total No. of members [18]

2.10 No. of IQAC meetings held [03]

2.11 No. of meetings with various stakeholders: No. [13]   Faculty [05]

Non-Teaching Staff Students [02]   Alumni [03]   Others [01]

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 [3]

(ii) Themes [ISO 9001:2015 implementation, Faculty Appraisal]

2.14 Significant Activities and contributions made by IQAC

1. Improvement in Attendance Monitoring for Faculty and Staff through ERP

2. Preparation of faculty MOOCs

3. Strengthening of Video Assignments and submissions

4. Design and development of Inhouse software for Institute related functions

5. Implementation of ISO 9001:2015

6. Internships amongst UG students

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 . Improvement in Attendance Monitoring for Faculty and Staff through ERP	ERP based provision for checking individual attendance records – daily, weekly and monthly was made.
2. Preparation of faculty MOOCs	Development of faculty MOOCs in A.Y. 2017-18
3. Strengthening of Video Assignments and submissions	Use of ICT enabled tools such as Google Classroom for providing and submitting Assignments
4. Design and development of Inhouse software for Institute related functions	Software for CO attainment, Software for Exam marks entry, Software for Accounts
5. Implementation of ISO 9001:2015	Design and development of applicable forms. Certification extended by BSI for A.Y. 2017-18 after Continuous Assessment Visit in March 2018
6. Internships amongst UG students	Around 85% students secured internship in A.Y. 2017-18, as an effect of spreading awareness amongst students and tie-ups with companies

2.15 Whether the AQAR was placed in statutory body   Yes √   No

Management | √ | Syndicate | | Any other body | |

Provide the details of the action taken

> Annual Quality Assurance report was presented during the Board of Management Meeting on 21st March 2018.
>
> Since March 2018, NBA preparation, discussions about Outcome Based Education have taken place

Part – B

Criterion – I

1. Curricular Aspects

1.1 Details about Academic Programmes

Level of the Programme	Number of existing Programmes	Number of programmes added during the year	Number of self-financing programmes	Number of value added / Career Oriented programmes
PhD	6	0		
PG	8	0		
UG	9	0		
PG Diploma				
Advanced Diploma				
Diploma				
Certificate				
Others				
Total	23			

Interdisciplinary	0			
Innovative	0			

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

Pattern	Number of programmes
Semester	√
Trimester	
Annual	

1.3 Feedback from stakeholders*   Alumni [√] Parents [ ] Employers [√] Students [√]
   (On all aspects)

   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.

> B.Tech. Syllabus Revision – Video Assignments

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

> Dean Student Career Counselling & Guidance, Dean Faculty Development appointed

Criterion – II

2. Teaching, Learning and Evaluation

2.1 Total No. of
permanent faculty

Total	Asst. Professors	Associate Professors	Professors	Others
193	133	31	21	8

2.2 No. of permanent faculty with Ph.D.

54

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
140	0	30	17	21	4	10	0	249	32

2.4 No. of Guest and Visiting faculty and Temporary faculty

-	60	25

2.5 Faculty participation in conferences and symposia:

No. of Faculty	International level	National level	State level
Attended	29	47	84
Presented papers	13	16	26
Resource Persons	12	15	4

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

1. Implementation of paperless submission using ICT enabled practices such as Google Classroom

2. Experiential learning opportunities through group mini projects in each semester.

3. Deputation of F.Y. B.Tech. students to NTU Singapore, deputation of students to KIEST, Korea in Summer 2018

4. Internship opportunities for hands-on experience in Summer Break as well as during 7th and 8th Semester

5. 100 marks examination in MSE as well as ESE for increasing rigor

2.7 Total No. of actual teaching days

during this academic year

| 185 |

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

| 1. Open Book Examination
2. Online MCQ Examination
3. OMR reading for faster processing of examination marks |

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

| 42 | 198 | 48 |

2.10 Average percentage of attendance of students

| 89.12 |

2.11 Course/Programme wise
distribution of pass percentage :

Title of the Programme	Total no. of students appeared	Division				
		Distinction %	I %	II %	III %	Pass %
Chemical Engg.	62	21	25	4	0	3
Computer Engg.	197	69	70	14	0	20
E and TC Engg.	129	45	44	18	0	10
Electronics Engg.	124	38	55	10	0	7
Industrial Engg.	45	6	18	4	0	5
IT Engg.	74	29	24	7	0	3
Instrumentation Engg	65	19	27	5	0	3
Mechanical Engg.	195	79	64	14	0	16
Production Engg.	56	12	19	10	0	3

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

   1) Through internal and external academic audits.

   2) Analysis of faculty feedback given by the students

   3) Question paper audit

2.13 Initiatives undertaken towards faculty development

Faculty / Staff Development Programmes	Number of faculty benefitted
Refresher courses	97
UGC – Faculty Improvement Programme	NIL
HRD programmes	52
Orientation programmes	23
Faculty exchange programme	0
Staff training conducted by the university	2
Staff training conducted by other institutions	48
Summer / Winter schools, Workshops, etc.	116
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	98	0	0	0
Technical Staff	41	0	0	0

Criterion – III

3. Research, Consultancy and Extension

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

- Sharing of research by internal faculty members
- Arranging expert lectures by outside eminent personalities
- Developing training modules
- Arranging conferences and workshops
- Submitting research proposals for government and non-government funding agencies
- Pursuing consultancy work, developing incubation centers.
- Writing patents
- Established research steering committee to coordinate the activities of the research forum.
- Arranging Training/ Discussion Sessions for the research forum:
- Having a mentor from IIT for every department
- Formalizing the procedure for Departmental research data collection
- Formalizing Training need Identification, Deputation and Feedback Process
- Formalizing the Research Appraisal Scheme for faculty members
- Developing a policy for VIT Research Grant

3.2   Details regarding major projects

	Completed	Ongoing	Sanctioned	Submitted
Number	04	04	04	50
Outlay in Rs. Lakhs	58.66	117.25	117.25	1010.62

3.3   Details regarding minor projects

	Completed	Ongoing	Sanctioned	Submitted
Number	18	13	13	27
Outlay in Rs. Lakhs	20.5	12.48	12.48	500

3.4   Details on research publications

	International	National	Others
Peer Review Journals	129	-	-
Non-Peer Review Journals	-	-	-
e-Journals	5	-	-

Conference proceedings	55	7	-	

3.5 Details on Impact factor of publications:

Range 0-2.809   Average 0.704   h-index 4.22   Nos. in SCOPUS 42

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

Nature of the Project	Duration Year	Name of the funding Agency	Total grant Sanctioned (in Lakhs)	Received (in Lakhs)
Major projects				
Bill Milinda Gate Foundation	2 Years	Bill Milinda Gate Foundation	2000000	2000000
Cryogenic testing of stainless steel	2 Yrs	ISRO	1500000	1500000
Minor Projects				
Handwritten Gujarati Script Recognition using Machine Learning Techniques	1 Yr	TIFR	Nil	Nil
Catalytic Pyrolysis of Thermoplastic Waste	2 years	Seed Money Grant, VIT Pune	100000	100000
Networked and Distributed control of Energy and Power Systems	2 years	Seed Money Grant, VIT Pune	80000	80000
Studies on Feasibility of Polyvinyl Alcohol (PVA) and Citric Acid (CA) Coated Magnetite Nanoparticles for Biomedical Applications	2 years	Seed Money Grant, VIT Pune	100000	100000
Real Time Ship Intrusion Detection in Dynamically Changing Environment	1 Year	TIFR		
Development of a SFP FMC card for FC7 board	1 Year	TIFR		
Time correlated single photon counting with high precision timing measurement	1 Year	TIFR		
Advanced identification of micro-cracks / damage in solar cells	2 years	Seed Money Grant, VIT Pune	200000	200000
Low cost high tech Educational Robot	2 years	Seed Money Grant, VIT Pune	190000	190000
Automatic number plate recognition (ANPR) for Arabic character using Deep learning.	1 Yr	Seed Money Grant, VIT Pune	100000	100000

Automatic number plate recognition (ANPR) for Broken characters using Deep learning.	1 Yr	Seed Money Grant, VIT Pune	100000	100000
Realtime Face Recognition system in surveillance applications.	1 Yr	Seed Money Grant, VIT Pune	200000	200000
Design and Implementation of distributed algorithm for a global cross domain multilabel document classifier using novel knowledge based semi supervised approach	2 Yrs	Seed Money Grant, VIT Pune	28000	28000
Interdisciplinary Projects	-	-	-	-
Industry sponsored				
Wilo pumps	2 Years	Wilo pumps	7625090	7625090
Effect of Thermal Conditions on Work Severity and Cognitive Response	2 years	Marathe fabricators	600000	600000
Projects sponsored by the University/ College				
Students research projects *(other than compulsory by the University)*				
Any other(Specify)				
Total			129.73	129.73

3.7 No. of books published   i) With ISBN No. [5]   Chapters in Edited Books [3]

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 [1,57,44,000]

3.11 No. of conferences

organized by the Institution

Level	International	National	State	University	College
Number	02	-		-	3
Sponsoring agencies	1) SPPU 2) IEEE 3) Self	-		-	Self

3.12 No. of faculty served as experts, chairpersons or resource persons | 51 |

3.13 No. of collaborations   International | 3 | National | 6 | Any other | - |

3.14 No. of linkages created during this year | 501 |

3.15 Total budget for research for current year in lakhs :

From Funding agency | 129.73 | From Management of University/College | 75 |

Total | 204.73 |

3.16 No. of patents received this year

Type of Patent		Number
National	Applied	12
	Granted	1
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
29	1	10	3	-	-	15

3.18 No. of faculty from the Institution
who are Ph. D. Guides | 22 |
and students registered under them | 61 |

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 | 5 | SRF | - | Project Fellows | - | Any other | - |

3.21 No. of students Participated in NSS events:

University level	123	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	11		
NCC	-	NSS	1	Any other	-

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

- Police Mitra
- Blood Donation
- Aatmabodh
- NSS Camp
- Diabetes Awareness Camp
- Organ Donation Awareness Program
- Election Awareness
- Seva Sahyog : Food Safety Rally

- International Women's Day
- Tree Plantation
- I2I

Criterion – IV
4. Infrastructure and Learning Resources

4.1 Details of increase in infrastructure facilities:

Facilities	Existing Sq.M.	Newly created	Source of Fund	Total
Campus area – Builtup Area	28655.68	-	-	-
Class rooms	2691.86	-	-	-
Laboratories	8435.65	-	-	-
Seminar Halls	1806.53	-	-	-
No. of important equipments 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

Central Library is using the SLIM 21 Library Software with various modules for all library activity.

Circulation Section, Journal Section, Procurement and Processing Section are fully computerised.

Online public access catalogue facility is available within the campus for all students and staff.

Bar coded based issue / return of books.

Central Library has started SMS service from February 2014 for the benefit of students. Now students are getting SMS for their overdue books.

News related to UGC, AICTE, DTE, University of Pune as well as News related to our Institute are now available on Institute Website.

Softcopy of old question papers is now available on Institute Website.

Biometric Attendance record keeping of staff and its availability for individual access

Digitization of important documents such as land documents, service books etc.

On-Line leave sanctioning

4.3 Library services:

	Existing		Newly added		Total	
	No.	Value	No.	Value	No.	Value
Text Books	62590	197.31 L	1760	996393	64350	207.27 L
Reference Books	2937	85.45 L	-	-	2937	85.45 L
e-Books	2484	1.76 L	-	-	2484	1.76 L
Journals	216	8.91 L	-	-	216	8.91 L
e-Journals	4651	17.84 L	-	-	4651	17.84 L
Digital Database	132	0.50 L	-	-	132	0.50 L
CD & Video	1657	2.66 L	-	-	1657	2.66 L
Others (specify)	523	0.64 L	-	-	523	0.64 L

4.4 Technology up gradation (overall)

	Total Computers	Computer Labs	Internet	Browsing Centres	Computer Centres	Office	Depart-ments	Others
Existing	1303	428	80	80	80	28	643	-
Added	-	-	-	-	-	-	-	-
Total	1303	428	80	80	80	28	643	-

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

Aircel Internet leased line : 60 Mbps

Reliance leased line : 4 Mbps

4.6 Amount spent on maintenance in lakhs :

  i) ICT

  ii) Campus Infrastructure and facilities

  iii) Equipments

  iv) Others

Total : 776.91

Criterion – V
5. Student Support and Progression

5.1 Contribution of IQAC in enhancing awareness about Student Support Services

> 1. Counselling and Grievance Redressal by IQAC members
>
> 2. Entrepreneurship development cell activities
>
> 3. Fostering   Technical and personality growth of students on the aegis of various students chapters such as IEEE, IE(I), ACM, IETE, ISA, SAE, etc.
>
> 4. Internship Mela for internship promotion
>
> 5. Competitive exam, Entrance exam guidance
>
> 6. Awareness amongst girl students regarding online mobile-app for protection purpose

5.2 Efforts made by the institution for tracking the progression

> - Through QMS by checking attendance and academic Non conformity
> - Through formative assessment throughout the semester
> - Interim reviews for Projects and Seminars
> - Counselling through class teachers and Dept. Heads
> - Constant meetings with Guardian faculty
> - Student Scholarships related details monitored through Quality Management System

5.3 (a) Total Number of students

UG	PG	Ph. D.	Others
3838	302	61	-

(b) No. of students outside the state

UG – 100 PG -15

(c) No. of international students

UG – 89 PG -2

Men

No	%
3121	74.29

Women

No	%
1080	25.71

Last Year						This Year					
General	SC	ST	OBC	Physically Challenged	Total	General	SC	ST	OBC	Physically Challenged	Total
2333	325	115	634	15	3422	3076	337	119	655	14	4201

Demand ratio   160000:940   Dropout % 0.25 %

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

> The Institute under Civil Services Aspirant Club have organized three awareness programs for giving guidance to students aspiring to join Civil Services.
>
> The Club members meet frequently to interact and prepare for competitive examination

No. of students beneficiaries | 307 |

5.5 No. of students qualified in these examinations

| NET | - | SET/SLET | - | GATE | 10 | CAT | 03 |
| IAS/IPS etc | - | State PSC | 1 | UPSC | 0 | Others | GRE- 42 |

5.6 Details of student counselling and career guidance

> Training sessions for students on topics such as : Resume Writing, Group Discussions, Personal Interviews. Mock interviews were conducted department wise by inviting industry experts.

No. of students benefitted | 2780 |

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
153	774	317	-

5.8 Details of gender sensitization programmes

> 1. International Women's Day (8th March 2018)
>
> 2. Women Empowerment and inspirational sessions

5.9 Students Activities

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

State/ University level | 487 | National level | 7 | International level | - |

    No. of students participated in cultural events

State/ University level | 67 | National level | - | International level | - |

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

Sports : State/ University level | 37 | National level | - | International level | - |

Cultural: State/ University level | 11 | National level | - | International level | - |

5.10 Scholarships and Financial Support

	Number of students	Amount
Financial support from institution	-	-
Financial support from government	1872	14,85,61,651
Financial support from other sources	38	84,914
Number of students who received International/ National recognitions	-	-

5.11   Student organised / initiatives

Fairs   : State/ University level | 1 | National level | - | International level | - |

Exhibition: State/ University level | - | National level | - | International level | - |

5.12   No. of social initiatives undertaken by the students | 14 |

5.13 Major grievances of students (if any) redressed: Improvement in internship opportunities

Criterion – VI

6. Governance, Leadership and Management

6.1 State the Vision and Mission of the institution

> Vision : To be globally acclaimed Institute in Technical Education and Research for holistic Socio-economic development
>
> Mission : 1. To impart knowledge and skilled based education in collaboration with Industry, Academia and Research Organizations 2. To strengthen global collaboration for students, faculty exchange and joint Research 3. To prepare competent Engineers with the spirit of Entrepreneurship 4. To inculcate and strengthen Research aptitude amongst students and faculty

6.2 Does the Institution has a management Information System

> **Computerization of administration**
> Administration at VIT is computerized under ERP. Following are the objectives of ERP.
> - To provide one central repository for all information that is shared by all the various ERP facets in order to smooth the flow of data across the organization.
> - To enhance productivity, efficiency of processes to achieve institutional objectives.
> - Modular design to facilitate seamless integration of new requirements and growth.
> - To reduce the response time by effectively transferring crucial information.
> - To reduce paper work and increase operational efficiency.
> - To streamline the numerous functions performed by the institute as a whole.
>
> ERP provides a fully automated solution for running institutional processes with following Modules
> - Registration
> - Admission
> - Fee Collection
> - I-Card Generation
> - User Management
> - On Line Mid Semester Examination
> - Sending Result Of Mid Semester On SMS And Email.
> - Sending SMS, mail to students
> - Staff Appraisal System (feedback)
> - Feedback based courses to faculty. Creation ,updation of question
> - Exam Marks Entry
> - Examiner appointment, marks entry of theory TA, ESE and LAB marks.
> - Exam Result
> - Exam result calculation, declaration, sending SMS
> - Exam Gradation
> - Exam seating arrangement and many other exam utilities
> - Staff Record Storage
> - Leave Management
> - Load Allocation subject assignment to staff before start of semester
> - Timetable generation and various reports
> - Room database, time table preconditions. staff conditions, reconditions of departments
> - Course ,institute feedback
> - Feedback on course contents , institute feedback
> - Dynamic Query analyzer

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

6.3.1 Curriculum Development

- Module Pattern
- Exposure to international languages such as French, German, Spanish
- Four semester long communication and Soft Skill Courses
- Mini Project – Every semester
- Computer and Electronics oriented workshops alongwith conventional workshops
- Commerce, Law, IPR related electives
- Yoga, Philosophy, Ethics related electives
- Health, Hobbies, Skills related electives
- PD Courses designed and conducted by Industry or Industry Experts
- Comprehensive Viva Voce
- Internationally compatible Academic Calendar to provide internship opportunities for substantial duration
- Self paced planning of Engineering – slow learners and fast learners
- Honors – Mini specialisation in special domain and Minor – Interdisciplinary knowledge acquisition facility

6.3.2 Teaching and Learning

- English Proficiency tests, bridge courses for Diploma to Degree direct admissions
- Support for internship activities for advanced learners
- Honors course in each Department
- Effective Class Teacher – Guardian Scheme For mentoring the students
- Group discussions, quizzes, open book exams, MCQs based assessment
- Use of multimedia such as LCD, OHP and Audio visual aids
- The Library has a variety of CDs which are uploaded on a server for common usage. Also the NPTEL (National Program for Technology Enhanced Learning) resources can also be used within the campus through campus wide network.
- Field visits.
- Identification of non-performing students and by taking effective measures to address the non conformities.
- MOOCs development by faculty
- Faculty from Purdue University teach courses in Machanical Engg. And Instrumentation Engg.

6.3.3 Examination and Evaluation

- Setting up of question paper to challenge various essential abilities of students such as analysis, synthesis, interpretation, design, etc. based on Blooms' Taxonomy rather than conventional memory recall based questions
- Teacher assessment based on tutorials where ever applicable and Home Assignment for all subjects / courses
- Central Assessment Programme at the end of Semester
- Intimation of student performance and announcement of result via SMS and e-mail
- Declaration of result within 15 days
- Extra term for all Courses – Summer Term
- Identification of academic and attendance defaulters and counselling for improvement in student performance
- Credit based system based on competition of SPI which is dependent on Grade points
- Formative and summative assessment
- Open book / MCQ / conventional Class Test
- MCQ based online Test with objective questions of varying degree of difficulty

6.3.4 Research and Development

1. Research committee is instrumental in working on following initiatives:

- Setting up VIT research quality policy: Publication requirements, research proposal submission requirements for faculty of various cadres, PhD Scholars and masters students
- Identifying departmental thrust areas and leveraging consultancy work by the faculty, based on these thrust areas.
- To develop Industry Institute Linkages, collaborative research entrepreneurship and incubation centres
- Identifying training needs of the faculty and deputing them to attend various seminars workshops and conferences to fulfil those needs.
- To make sure that parent University norms are followed for the conduction of the PhD program at the research centre

2. Institute faculty has received Research Grants from ISRO, RGSTC, BCUD - SPPU

6.3.5 Library, ICT and physical infrastructure / instrumentation

- Library :
  - Central Library is using the SLIM 21 Library Software with various modules for all library activity.
  - Circulation Section, Journal Section, Procurement and Processing Section are fully computerised.
  - Online public access catalogue facility is available within the campus for all students and staff.
  - Bar coded based issue / return of books.
  - Central Library has started SMS service from February 2014 for the benefit of students. Now students are getting SMS for their overdue books.
  - News related to UGC, AICTE, DTE, University of Pune as well as News related to our Institute are now available on Institute Website.
  - Softcopy of old question papers is now available on Institute Website.

- ICT :
  - Development of mobile app for student related information on website
  - Development of Video conferencing facility
  - Online fee collection using Gateway
  - Project registration module
  - Facebook group for First year students

- Physical Infrastructure :
  - Campus security using surveillance cameras
  - Renovation of T&P facility
  - BT road construction
  - Increase in food outlets
  - Beautification of campus by floral tree plantation

6.3.6 Human Resource Management

- Submission of leave and sanctioning through ERP.
- Creation of data base for newly recruited faculty using ERP
- Integration of HR data for time table., feed back and allied activities
- Scanning of service books and other mandatory documents

6.3.7 Faculty and Staff recruitment

- Presentation , technical / non technical interviews, establishment of panel for faculty recruitment involving Dean, Registrar, Head of the Department, Senior Professor along with Director as a Chairman.
- Induction Training Programme for newly recruited staff

6.3.8 Industry Interaction / Collaboration

- Representation on Board of Studies, Academic Board and Bard of Management
- Consultancy projects
- Placement activity
- Guest lectures
- Professional Development Courses
- U.G./ P.G. Project sponsorship
- Internship opportunities during Summer Vacation and regular Semester
- Industrial visits
- Joint research programme
- Participation in Surveys

6.3.9 Admission of Students

- Showcasing VI Institute activities through News papers, campaign, social media
- Counselling and guidance through Book publication
- Academic reforms to address needs of Industry, academia and Society at large

6.4 Welfare schemes for

Teaching / Non teaching	• Group Insurance • Kalyankari Yojana • Credit Co-operative Society • Provident Fund and Gratuity • Tie – up with nearby Hospital for immediate medical attention at concession al rates
Students	• Earn and Learn Scheme • Scholarships • Educational Loan assistance • Tie – up with nearby Hospital for immediate medical attention at concession al rates

6.5 Total corpus fund generated

No

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	IIT Professors	Yes	ISO Consultant
Administrative	Yes	Phadke & Co.	-	-

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

For UG Programmes   Yes [√]   No [ ]

For PG Programmes   Yes [√]   No [ ]

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

- Auto –allocation of seating arrangement.
- Personalized Time Table available to the student upon entry of General Registration Number
- OMR reading for faster processing of examination marks

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

> N.A.

6.11 Activities and support from the Alumni Association

- Representation in Board of Studies
- Alumni meet at Institute level in December 2017
- Material and technological support
- Interaction with faculty about Academics and Research
- Lectures about career planning

6.12 Activities and support from the Parent – Teacher Association

> NIL

6.13 Development programmes for support staff

- ISO awareness

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

1) Bio-metric machines are used for daily attendance purpose.

2) Maintenance of trees, lawns, bushes by applying fertilizers and pesticides

3) Using the back side of one-side printed paper for drafting purposes. Recycling of waste paper through agency is carried out regularly, instead of burning it.

4) Dried leaves of trees are used for preparing compost.

5) Five days working, to reduce fuel consumption by 16%

6) Low Wattage consuming CFL (Compact Fluorescent Lamps) are installed in the campus. CFL Lamps, fans, computers, printers and other electricity consuming items are switched off or shut down to save electricity.

7) Eco-friendly and Energy Star compliant computer peripherals and other electronic and electrical appliances are used.

8) Beautification of campus by planting floral trees.

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.

> 1. Academic innovations to improve teaching learning at B.Tech level
>   - Provision for Semester Internship
> 2. Inclusion of online fee payment through Gateways using ERP
> 3. Facebook Groups and Whats app groups for better communication
> 4. Use of Google classroom for On-line submissions
> 5. Paperless circulation of notices

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

> Plan – To revise Under Graduate Structure & Syllabus for B.Tech. Programs
>   Action Taken - Implementation from Academic Year 2017-18
> 2. Plan – Department Industry Advisory Boards activities
>   Action Taken - Meetings of Department Industry Advisory Boards took place
> 3. Plan – Interaction with Department Mentor
>   Action Taken – Interaction of Department Mentors with Department faculty
>   regarding Research guidance, facility support and academics
> 4. Plan – To carry out Academic Audits
>   Action taken – Academic audits carried out by IIT Professors

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

> 1. Six months Industry internship
>
> 2. Student Exchange Program for 6 months

7.4 Contribution to environmental awareness / protection

1. All electrical and electronics equipments are switched off when not in use
2. CFL tubes and lamps are installed
3. Photographs / videos are digitally stored instead of paper albums or plastic tape
4. Appeal to all students and staff for using public transport or sharing the vehicle
5. Green coverage area is around 200 sq. mtrs.
6. Underground drainage and storm water system is available which is connected to Corporation line.
7. Research contribution of faculty from Chemical Engg. And Mechanical Engg. Department in development of cost effective toilets for rural India
8. Conduction of Green Audit

7.5 Whether environmental audit was conducted?   Yes √   No ☐

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

Institute carries out Management Review Committee meetings periodically to address quality related, academic and other issues.

8. **Plans of institution for next year**

1. To organize International Conference in Chemical Engineering
2. Two State level workshops in Multidisciplinary areas
3. To conduct orientation program for newly joined faculty
4. To improve student internships
5. To provide career counselling and guidance support to students, besides placement support
6. To carry out Examination Automation and implement ISO 27001 standard

Name Prof. Ashutosh Marathe   *Name Prof. (Dr.) Rajesh Jalnekar*

-----sd-----   *----- sd-----*

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

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Abbreviations:

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

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