



**Bansilal Ramnath Agarwal Charitable Trust's  
VISHWAKARMA INSTITUTE OF TECHNOLOGY, PUNE – 37  
(An Autonomous Institute Affiliated to Savitribai Phule Pune University)**

**Academic Information Booklet  
For Under-Graduate Programmes**

**ACADEMIC YEAR 2018 - 2019**

**Rules & Regulations as per the approval of Academic Board in :**

- 1. Resolutions passed in 19<sup>th</sup> Academic Board Meeting, held on 22<sup>nd</sup> March 2018**
- 2. Resolutions passed in 20<sup>th</sup> Academic Board Meeting, held on 30<sup>th</sup> July 2018**

*Prepared by : Prof. Rahul Waikar, Member Secretary – Academic Board*



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**FOREWORD**

Ever since VIT became Autonomous in July 2008, we are working very hard to implement student centric schemes. The objectives we have kept in mind are:-

- 1) Overall personality development of the student
- 2) Inculcate self study culture amongst students
- 3) Multi-disciplinary approach
- 4) International exposure
- 5) Increase the effectiveness of teaching – learning process
- 6) Internationally compatible academic calendar
- 7) Develop “Vidyarthi”, not ”Pariksharthi” (Develop Student, not Examinee)
- 8) Well planned diverse assessment schemes based on both Hands on and Theory components
- 9) Exam on demand
- 10) Declaration of result within 15 days
- 11) Involvement of industry in curriculum design and teaching – learning process
- 12) Focus on experiential learning

To achieve the above objectives, we have implemented several out-of-the-box innovative practices like :-

- 1) GP / PD/ HSS Courses
- 2) Individualized and challenging Home Assignment for all subjects
- 3) Engineering Design and Development course
- 4) Communication and Soft Skill courses
- 5) Major project
- 6) Introduction of Honors / Minor Schemes
- 7) Remedial teaching in every semester
- 8) Assessment as per Bloom’s Taxonomy
- 9) Implementation of ERP system
- 10) Innovations via ICT enabled teaching learning
- 11) New Pedagogical initiatives- MOOC Video development

This booklet contains all the important and useful information necessary for a student to understand the teaching – learning and assessment system. I hope that the students will go through it and take maximum benefit.

**Prof. (Dr.) R.M. Jalnekar**  
Director



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**ACADEMIC RULES AND REGULATIONS**

**I) Preface**

**a) Information of VIT:** - Vishwakarma Institute of Technology is an Autonomous Engineering Institute affiliated to Savitribai Phule Pune University. The Institute is run by Bansilal Ramnath Agarwal Charitable Trust. It is one of the premier Engineering Institute of high repute in the country. The Institute was established in 1983 and during the journey of last three decades has grown up from an Under-Graduate Institute to an Institute offering a variety of Under-Graduate, Post-Graduate and Research programs. Vishwakarma Institute of Technology is the first private, unaided engineering Institute in the state of Maharashtra to be granted Academic Autonomy.

The Institute is well known for its visionary management, matured and stable leadership, dedicated faculty, high academic standards, diverse co-curricular and extra-curricular activities and meritorious students.

The vision statement of the Institute is **'To be Globally Acclaimed Institute in Technical Education and Research for Holistic Socio-Economic Development'**

The Mission statements of the Institute are

- **To ensure that 100% students are employable and employed in Industry, Higher Studies, Become Entrepreneurs, Civil / Defense Services / Govt. Jobs and other areas like Sports and Theatre.**
- **To strengthen Academic Practices in terms of Curriculum, Pedagogy, Assessment and Faculty Competence.**
- **Promote Research Culture amongst Students and Faculty through Projects and Consultancy.**

**• To make students Socially Responsible Citizen.**

As on the commencement of Academic Year 2018-19, the Institute runs 9 Under-Graduate programs, 8 Post-Graduate programs and 6 Ph.D. programs. They are as follows :-

**Under-Graduate Programs :-**

**Under Graduate Courses –Regular Shift**

Sr. No.	Name of Course	Sanction Intake
1)	Industrial Engineering	60
2)	Electronics Engineering	120
3)	Mechanical Engineering	180
4)	Computer Engineering	180
5)	Instrumentation & Control Engineering	180
6)	Chemical Engineering	60
7)	Production Engineering	60
8)	Electronics & Tele-communication Engineering	60
9)	Information Technology	60

**Under Graduate Courses –Second Shift**

Sr. No.	Name of Course	Sanction Intake
1)	Computer Engineering	60

2)	Electronics & Tele-communication Engineering	60
3)	Mechanical Engineering	60

### **Post Graduate Courses- Regular Shift**

Sr. No.	Name of Course	Sanctioned Intake
1)	Heat Power Engineering	18
2)	Design Engineering	25
3)	Computer Science and Engineering	25
4)	Industrial Engineering	18
5)	Process Instrumentation	18
6)	Chemical Engineering	18
7)	Electronics & Tele-communication Engineering	18
8)	Master in Computer Applications (M.C.A.)	60

### **Ph.D. COURSES**

Sr. No.	Name of Course
1)	Mechanical Engineering
2)	Chemical Engineering
3)	Industrial Engineering
4)	Instrumentation & Control Engineering
5)	Electronics & Telecommunication Engineering
6)	Computer Engineering

The Institute obtained Academic Autonomy since July 2008 and has implemented with good effect. The Institute has designed 'A Joyful Learning Model' which emphasizes on the overall development of the student as a responsible Engineer and human being, rather than producing a mere technocrat.

### **Unique Academic Features implemented after Autonomy**

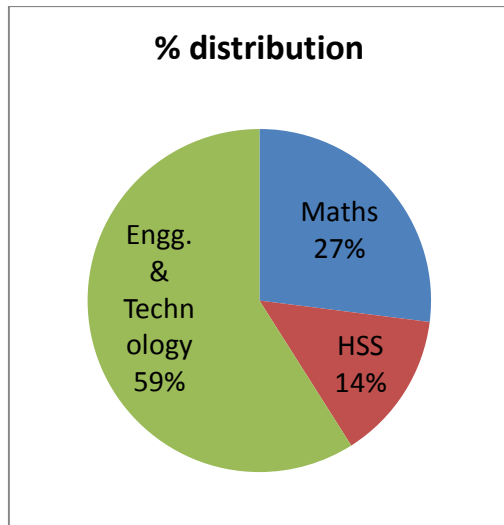
The Institute has emphasized on experiential learning and consciously designed its curriculum to allow students to carry out extra academic activities and stay academically occupied on the campus throughout the day. To that effect, Institute has designed novel courses such as Professional Development (PD), General Proficiency (GP), Engineering Design and Development (EDD) Project every semester, Skill Development (SD), Communication and Soft Skill Courses, Technical and General Seminars, Summer training, International languages, Open Electives (OE) based on legal, commercial aspects as well as some courses emphasizing on engineering ethics, philosophy, etc. The Institute also offers optional super specialization courses under the Honors Stream. Honor streams receive a warm response from the students as they benefit by opting for cutting edge courses under these streams. The details of the courses along with the objectives are covered later this document.

### **II) Introduction**

**a) Composition of courses:** - The Institute has maintained a critical balance and sufficient representation of Humanities and Social Sciences (HSS) courses, basic Sciences and Mathematics (S&M), Engineering and Technology (E&T) courses.

The Institute follows a Credit Based System (CBS) and Grade Point Averages (GPA) are calculated in every semester. The student can earn additional

credits through optional Honor courses. The distribution of HSS, Science and Mathematics (S&M), Engineering and Technology (E&T) courses, typically is as under:-



**b) Phases of Study**

The curriculum is carefully designed to impart the necessary knowledge of engineering, technology as well as social sciences to prepare a competent global citizen. The three phases are as under:-

Phase I – Intense study of basic science, humanities and mathematics

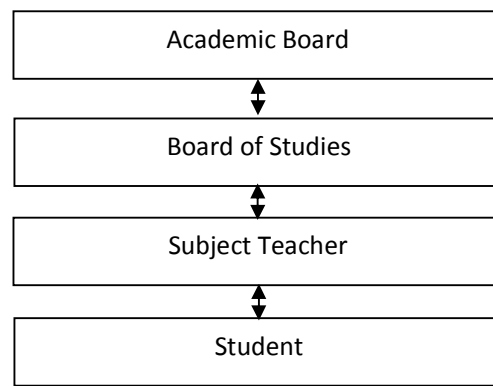
Phase II – Study of Engineering Sciences and Technology

Phase III – Exposure to Applied areas in chosen program of study

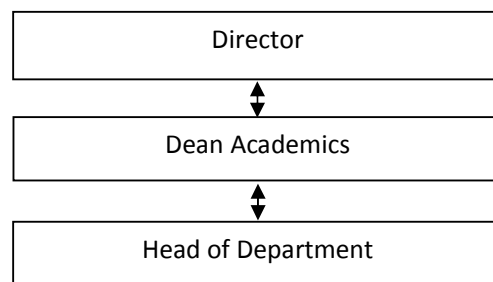
**c) Academic Administration**

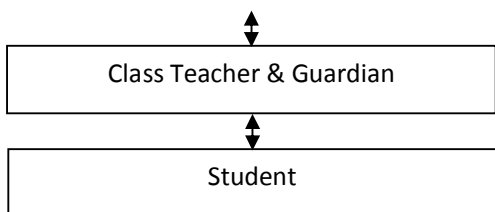
The Academic Board of the Institute is the apex academic body that takes decisions about the implementation of academic practices in the Institute. The Director is the Chairman of the Academic Board. For policy making and implementation of program specific academic initiatives, Board of Studies (BOS) are formed in the Eight Degree

awarding departments – BOS Mechanical Engineering, BOS Electronics, BOS E&TC Engineering, BOS Instrumentation & Control Engineering, BOS Computer Engineering, BOS Industrial & Production Engineering, BOS IT&MCA, and BOS Chemical Engineering, along with one non program offering Department viz. Department of Engineering, Sciences and Humanities (DESH). The Head of Department is the Chairman of the respective Board of Studies. The Academic Board policies are implemented at the program level through respective Board of Studies.



For redressal of academic grievance of student, the Institute has an established various mechanisms. For every division, a class teacher is appointed. The class teacher works as a counselor to address the issues reported to by the students. Along with that every student is assigned a Guardian who advises the student on various issues like career higher studies and keeps track of his academics also. Based on the gravity of the grievance, the issue is handled and resolved by the college authorities.





#### d) Academic Calendar

The Teaching – Learning for Semester is carried out for minimum 90 working days for a Semester as per University Grants Commission (UGC), All India Council for Technical Education (AICTE) and University of Pune norms. The Institute plans its academic calendar for the forthcoming academic year well in advance and adheres to the same. The academic calendar typically covers the following activity details:-

- College re-opening after vacation
- Students' registration and Director's address
- Teaching Learning activities – inclusive of Remedial teaching
- Submission deadlines
- Examination and Assessment Schedule
- Student Activity Details
- Schedule of various meetings / Audits etc.
- Vacations and holidays

The academic calendar is designed so as to provide around 10 week Summer break, 2 week Winter break and 2 week Diwali break for students.

The students utilize the internationally compatible 10 week Summer break for internships in India and abroad or development of project or for a substantial co-curricular or extra-curricular activity development.

The student activities such as Mélange – The national level flagship activity of the Institute, Annual Social Gathering, Vishwakarandak – the Inter-

Departmental student fest are all included in the academic calendar.

### III) Curriculum / Program details

#### a) Structure and Syllabus for program of study:-

The typical structure for a semester in any programme of study consists of the following minimum courses:-

1. First Year structure consists of 4 core subjects, 1 Skill development subject like Social science , international language, 1 core PD like workshop, Engineering Graphics, 1 EDD, 1 GP and 1 PD course.
2. Second Year structure consists of 4 core subjects, 1 skill development subject (Math based), 1 EDD, 1 GP and 1 PD course.
3. Third Year structure consists of 4 subjects including 2 core elective and 2 special elective subjects, 1 Core PD like Seminar, Summer Internship, 1 EDD, 1 GP and 1 PD course.
4. Final year structure consists of Semester long Internship Module or Regular Module having 3 open electives, 1 semester long major Project and 1 PD course. Student has a choice for opting internship module or regular module at first. If a student prefers internship Module during Semester1, then he has to perform regular Module in Second semester and vice versa.

To strengthen experiential learning, all the core subjects have Laboratory sessions associated with it

The year-wise break up of credits for all applicable patterns for all branches is as under:-



Students admitted in A.Y.	FINAL YEAR B.TECH H.	T.Y. B.TECH CH.	S.Y. B.TECH CH.	F.Y. B.TECH CH.
2015-16	E11	F11	A14	B14 (48)
2016-17	F11(42)	A14(50)	B14 (50)	A16 (50)
2017-18	A14 Revised (42)	B14-Revise d (46)	A16-Revise d (46)	A17 (44)
2018-19	<b>D18 (32)</b>	<b>C18 (42)</b>	<b>B18 (44)</b>	<b>A18 (46)</b>

For every program, Program Educational Objectives (PEO) are defined by the respective Boards of Studies. Program Educational Objectives are the broad statements that describe the career and professional accomplishments that the program is preparing the graduates to achieve.

For every theory and Lab course, the course outcomes are defined. It is ensured that the course objectives are in synchronization with the Programme Objectives & Programme Educational Objectives.

The typical syllabus for a theory course consists of 2 sections. Each section focuses on conceptual and applied learning. Students are expected to submit Home Assignments, which focuses on assessment of teaching – learning process, as scheduled. To take cognizance of the learning beyond syllabus, Course Projects during Lab, and Project centric learning have been introduced in curriculum.

The structure and syllabi for the program offered by the Institute are available on the Institute website, <http://www.vit.edu/index.php/departments>

#### b) Patterns:-

The structure review takes place at least every 3 years or as per necessity. The initial autonomous structure was implemented in July 2008. A subsequent revision took place in July 2008, July 2014, July 2017 and July 2018. For ease of

examination, assessment, transcripts and other relevant purposes, every incoming batch is assigned a pattern every academic year which is a unique identifier for the structure and syllabus to be implemented for the said batch in that academic year of the engineering course. The patterns effective for academic year 2018-19 are as under :-

Year of Study	Pattern
F.Y. B.TECH.	<b>A-18</b>
S.Y. B.TECH.	<b>B-18</b>
T.Y. B.TECH.	<b>C-18</b>
FINAL YEAR B.TECH.	<b>D-18</b>

#### c) Coding Scheme:-

The Institute offers diverse types of courses. In order to distinguish the courses, while maintaining their uniqueness, an alphanumeric coding scheme is designed. It is as under:-

Consider a 6 character alphanumeric entry XX1234 where first two characters (XX) represent BOS name; third character indicates year of course i.e. 2 for SY Betch, 3 for TY Btech. etc.; the 4th place will represent the Structure Revision Pattern no. The A18 structure revision will be denoted as 0, and subsequent revision 1, 2 and so on; The 5th and 6th place will represent the course no. It can vary from 00 to 99.

The abbreviations for the various BOS are as under:-

Abbreviations	BOS
CS	BOS, Computer Engineering
EL	BOS, Electronics Engineering
ES	BOS, Department of Engineering, Sciences and Humanities
CH	BOS, Chemical Engineering
IC	BOS, Instrumentation & Control Engineering
ME	BOS, Mechanical Engineering

IE	BOS, Industrial & Production
PR	Engineering
ET	BOS, Department of Electronics & Telecommunication
IT	BOS, Department of IT&MCA

Year of course is :-

Number	Year
1	First Year of B.Tech.
2	Second Year of B.Tech.
3	Third Year of B.Tech.
4	Fourth Year of B.Tech.
5	First Year of M.Tech./MCA
6	Second Year of M.Tech. /MCA
7	Third Year of M.C.A. program
8	Course work for Ph.D. program (As applicable)

**d) Objectives of various courses and their implementation details-**

**1. Core courses:**

The core subjects form the fundamentals of the program and enable one to grasp the program basics and to choose proper elective streams in core electives and special electives. The core subjects are selected based on various inputs i.e. GATE subjects, apex professional bodies of programs and curriculum of international and national universities.

**2. Engineering Design and Development**

EDD is the Engineering Design and Development which is a Project centric learning.

**Project Centric Learning:**

In the real world in Industry various projects are undertaken as per the customer need and products are developed which cater to the market requirement. Such projects do not belong to particular engineering domain, but need

multidisciplinary approach. It may also need use to latest technology and tools to:

- 1) Make it cost effective
- 2) Quality improvement
- 3) Performance improvement
- 4) Innovation
- 5) Additional features
- 6) New product development
- 7) New Concept

Also the professionals working in industry need to learn various tools, technologies, review the available products, domains in which the product is applied, literature review and everything else that is required to complete the project. This is the idea of Project Centric Learning.

The engineering and technology world is changing in a disruptive manner. The new areas where the technology is moving are:

Artificial Intelligence	Internet of Things	Mobile/social Internet
Block Chain	Big Data	Automation
Robots	Immersive Media	Mobile Technologies
Cloud Computing	3 D Printing	CX
Energy Technology	Cyber Security	Voice Assistants
Nanotechnology	Collaborative Tech	Health Technology
Human Computer Interaction	Geo-Spatial Tech	Advanced Material
New Touch Interfaces	Wireless Power	Clean Technology
Quantum Computing	Smart Cities	Edge/Computing
Faster, Better Internet	Proximity Technology	New Screens

Using these technologies, problems in various socially relevant domains can be solved. To name a few,

- Agriculture
- Defense
- Healthcare
- Smart Cities
- Smart Energy
- Security Systems
- Automobiles
- Space
- Green Earth
- Assistive Aid
- Water Management
- Swachh Bharat

The vision of our Institute is to train students to envision areas in the above domains. The industry needs future ready engineers which would be technically strong and flexible to use the latest engineering tools such as:

- Programming ( C, C++, Java, Python)
- Design and Modeling (MATLAB, SCILAB, Lab VIEW, Simulink)
- VLSI (Xilinx, Modelsim, )Cadence
- System Automation (PLC, SCADA)
- PADS, ORCAD, Eagle, Kicad
- Embedded System (AVR Studio, Arduino, Kiel uvision)
- Computer Vision (OPENCV, MATLAB)
- Circuit Simulation (Pspice, Simulink, Workbench)
- Wired / Wireless and Ad-hoc Networking ( NS-2, Packet Tracer)
- Signal Processing (Code Composer Studio)

A group of around five student should come together and address issues in the socioeconomic field using engineering tools and technologies, following the steps below:

- Team formation
- Project identification relevant to societal needs
- Identification of Technology and tools
- Identify a supervisor
- In consultation with the supervisor refine domain tool and technology areas
- Identify Industry working in same domain
- Map the technologies with the project needs
- Apply the technological knowledge to design various feasible solutions
- Select best possible solution to solve a the problem
- Develop/Fabricate a working model of proposed solution
- Test and validate product performance

Students will get hands on experience through experiential learning. A student may not know the details of the domain, technology, tools therefore it is expected that they learn it, under the supervision of the supervisor, in consultation with the industry, refer to available MOOC's designed by VIT faculty, refer material such as books, soft material and then follow the following steps.

Role of Faculty becomes a facilitator. The tasks carried out during those two hours by the faculty are, give relevant theory inputs, make aware of available resources, connect to domain expertise and progress monitoring.

Additionally students are allotted 4 Lab Hours for EDD project implementation. Through EDD, student learning will be improved in the form of team work, connecting people, communication skills, design, and programming skills.

### **3. Core Electives (CE):**

Core elective courses are offered to Third Year students. Core electives are job oriented courses increasing student's employability. The students are free to choose subjects to specialize in a particular stream of their choice or take elective subjects of different domains

### **4. Special Electives (SE):**

Special elective courses are offered to Third Year students. The special electives allow students to take interdisciplinary courses and also highly specialized courses focused on employability skills for dream jobs. This will help students from many programs to take courses in computer engineering in order to get necessary employability skills.

### **5. Skill Development:**

Skill Development courses are offered in First and Second Year engineering. At FY level, focus is on social science, International Languages etc. At SY level, focus is to improve Mathematical skills.

### **6. General proficiency (GP) (Audit Course):**

Institute offers General proficiency courses in First, Second and Third year engineering.

General Proficiency Audit course gives learning opportunities related to social and extracurricular activities. It helps overall development of students through various social, cultural, technical, sports and leadership activities. Enhance awareness

and commitment towards active citizenship and social responsibility, leadership qualities, communication skills, Prioritize commitments and employ time management skills to maintain balance between academic work, co-curricular and extracurricular activities, develop positive attitude towards under-privileged sections of the society will be outcome of these courses.

### **7. Professional Development (PD) (Audit Course):**

Professional Development courses are offered in all four years of engineering. Professional development includes informal learning opportunities situated in practice. It is intensive and collaborative. It is aimed to provide individualized advising support to students. It addresses issues like self organization and adaptability to the environment. This course includes awareness sessions for enhancing technical awareness & soft skills. It covers aspects for self development like importance of dress code, ethics, SWOC analysis, resume writing, preparations for group discussion and personal interviews etc. Technical Skill enhancement, awareness of higher education, motivation for startup are the areas of focus of these courses. Holistic development of student will be outcome of these courses.

### **8. Seminar**

A technical seminar is to be delivered by every student in T.Y. B.TECH. Semester I. It's a one credit course. Evaluation marks will be converted to Grades.

The objectives behind the technical seminar are:-

To inculcate the reference search and effective technical précis writing skills among students

To enhance time management and presentation skills

To strengthen the literature survey and other research attributes essential for Major project activity

### **9. Summer Training:**

Summer training course is offered in TY B.Tech. It's a one credit course.

Students can perform 1 month summer internship or can attend value added and certified training program/course/workshop (of 40 hours) or complete a 40 hr MOOC course to earn credit for this course.

### **10. Major project**

Final year students have to carry out one semester long major project. The students typically undergo group formation, area finalization; design and development; testing, generation and verification of results, research publication procedure.

In the major project, the student group is expected to apply the engineering principles learnt during the studies and produce a result oriented output. Evaluation marks will be converted to Grades.

### **11. Internship:**

The institute offers Semester long internship course for final year students. It is useful for students to get industry exposure by working on live projects which results into pre placement offers.

Internship reviews and evaluation schemes are set. Faculty has to visit industry mentor for the student's evaluation. In total, Industry institute interaction gets strengthened.

Evaluation marks will be converted to Grades.

### **12. Open Elective courses (OE):**

Open elective courses are offered to Final Year students.

- They are application and research oriented, industry demanding subjects, recent technology courses.

- To supplement the technical knowledge in the field of engineering, and to prepare a responsible citizen, courses such as Sociology, Psychology, Philosophy and Environmental Studies are taught.

- The commercial knowledge essential for the Engineer is also provided through courses like Economics, Management Techniques, Cost & Accounting, Law, Renewable energy, Cyber security etc.

#### **e) Opportunities for additional learning Honors stream – Details – names of subject, lab. course distribution, etc.**

The Institute has a unique academic feature i.e. Honors stream which serve as an unique opportunity for additional learning. The Honors stream provides an opportunity for the eligible student to explore specialization in the domain area.

The Honors stream enhances employability in core areas. It produces a focused output, enhancing suitability for a Master's Degree in Engineering / Technology. It also adds uniqueness to the resumé.

The Honors stream provides an opportunity to student to earn additional credits.

The very fact that Honors stream being offered is a unique academic practice of the Institute and that the stream contains theoretical as well as experiential learning opportunity makes it even more special. The concept is well received by the students since January 2012 and a large number of second year students opted for the additional credit earning facility through Honors stream. For the Honors

stream to be launched from July 2018, various Honors streams offered (with applicable eligibility requirements – academic as well as branch specific) are as follows :-

**f) Honors streams**

<b>Sr. No.</b>	<b>Name</b>
1)	Mechanical–Automobile Engineering
2)	Mechanical – Aerospace Engineering
3)	Electronics & Telecommunication– Artificial Intelligence and Data Analytics
4)	Electronics & Telecommunication– Computer Vision
5)	Electronics- Industrial IOT
6)	Electronics- Embedded System Design
7)	Instrumentation – Electronic Product Reliability and Testing

The academic performance of the student in the chosen Honor stream is shown in the comprehensive statement of grades issued at the time of graduation.

The academic performance in Honors does not influence the CPI calculation of the 8 semesters.

A separate CPI is calculated for the entire stream after the student earns the requisite additional credits.

**g) Summer term facility for students**

For F.Y.B.Tech and Final Year B.Tech. Courses, an additional make-up semester facility, known as Summer Term, is tentatively conducted from last week of May till last week of July.

**h) International Relations Cell activities for students**

The Institute provides an unique opportunity to deserving students to attend one semester in leading engineering institutes in Germany and Canada under Student Exchange Program. The Institute has tie-up with Hof a conglomerate of leading engineering institutes in Germany,

wherein, the selected students spend T.Y. B.TECH. Semester II in the chosen Institute. The Institute is also a member of the Ontario-Maharashtra-Goa (OMG) student activity. As a part of this activity, the selected students spend T.Y. B.TECH. Semester I in one of the 17 universities in the Ontario region in Canada.

A thorough procedure is carried out for selection of students on the basis of academic performance, personality, international exposure, aptitude, willingness and adaptability, etc. An academic equivalence is set up by respective Board of Studies and the students register for recommended audit courses before the departure or upon arrival. The student performance during the Semester abroad is also scrutinized and on that basis, the requisite credits applicable for the semester are transferred to the student.

So far, 84 students are benefitted from the student exchange program since 2012 till July 2018. Many such students have secured admissions to international institutions of repute wherein, their international exposure as a part of the scheme has proven to be a decisive parameter.

Reciprocally, the students from Polytech Nantes have come to VIT for internship activities.

The Institute has an established International Relations Cell through which conscious efforts are taken to seek academic partnership with internationally reputed universities.

Institute has established joint International Engineering Research Centre (ERC) in association with State University of New York at Binghamton, USA.

The Institute has taken conscious efforts to train its promising faculty and aspiring students under the tutelage of faculty of international repute during the summer and

winter breaks. As a part of this initiative, Prof. (Dr.) Onkar Sharma - Marist College has conducted a four week extensive training program on “Operating Systems”.

To spread the benefits across to the Systems branches as well, international faculty interaction in areas of Heat Transfer, Statistical Methods & Research Methodology, Design of Machine Elements, VLSI Design and Nano Technology, eminent faculty, Prof. Bruce Murray, Prof. Mohammed Khasawneh, Prof. Roy McGran, Prof. Zhanpeng Jin from State University of New York at Binghamton and Prof. Louis Hornyack from Asian Institute of Technology, Bangkok, visited Institute since Academic Year 2013-14.

The institute has also established various international internship programs for first, second and third year students at KIST Korea, NTU Singapore, HoF Germany. Keeping in mind the changing scenario of education system the institute has taken active efforts in giving international exposure for its students. FirstYear BTech students are not an exception to this. In First Year itself the students are given an opportunity to participate in global internship program at NTU Singapore. So far 280 students have done internship since 2012-18 wherein students got an opportunity to explore international work culture and gain hands on experience. Where they also learnt to adapt themselves to social, geographical, and environmental aspects.

#### i) Issue of Transcripts

Transcripts are usually issued when the graduating students seek admission for higher studies in India and abroad.

It is a reflection of the University, Institute information, the salient features of the program of study; teaching and examination scheme applicable for the student under the Autonomous format, etc. It is supplemented by certified Grade

Sheets of the candidate. The transcripts, at times, are used to procure scholarships as an authentic document.

The Institute has a policy of issuing transcripts to all graduating students upon request as per the office procedure.

These student exchange program students are assessed on the basis of Pass/Fail Grade and credit transfer as per concerned MOU with the university. If some courses are learnt in student exchange program, then those subjects are offered as electives for them to fill up the Gap.

#### IV) Assessment and Examination:

Following is the assessment pattern for courses in A.Y. 2018-19:

##### 1. Assessment Pattern for all engineering courses with lab:

In Semester Assessment			End Semester Assessment	
Assignment (%)	Lab Assessment (%)	Mid Semester Exam (%)	End Semester Exam (%)	Viva (%)
10	30	10	30	20

##### 2. For Behavioral Sciences, Mathematics 1, Mathematics 2 and Applied Science.

In Semester Assessment		End Semester Assessment	
Mid Semester Exam (%)	Assignment (%)	End Semester Exam (%)	Viva (%)
10	10	60	20

##### 3. Mathematics 3 and Mathematics 4 will have *direct grade Entry*. The Grades will be calculated based on marks out of 100 based on following assessment.

In Semester Assessment		End Semester Assessment	
Mid Semester Exam (%)	Assignment (%)	Mid Semester Exam (%)	Assignment (%)
30*	20	30*	20

\* The Mid Semester and End Semester for this course will be conducted in class for 1 hour with maximum marks 30.

### **1. Home Assignment :**

#### **Guidelines:**

A Student will get one HA consisting of 10 Questions with 5 questions from Section 1 and 5 questions from Section 2. Assignment will be given individually to students ensuring that no two students will have the same assignment. The questions in the assignment should be assigned randomly selected from section 1 and section2 of HA Question Bank. Assignments will be monitored regularly.

#### **Mode of Conduction:**

Assignments will be monitored regularly. Faculty has to distribute HA Answer sheets to students. The answer sheets of 12 pages and extra supplements if required will be issued to the student on demand, by Faculty. Student will receive the assignment answer sheets in the 12<sup>th</sup> Week as per Academic Calendar. In case of loss of answer sheet, it will be reissued with a fine.

**Deadlines:** (please refer detailed Academic Event Calendar for exact dates)

1. Individualized students assignments should be available for download on VOLP by 2<sup>nd</sup> Week of Academic Calendar
2. Assignment Answer sheets will be issued to students during 12<sup>th</sup> Week of Academic Calendar
3. Assignment checking of section1 should be done at MSE
4. Submission of HA answer sheets by student to faculty during 15<sup>th</sup> week of Academic Calendar

5. Assignment checking of section2 should be done during 15<sup>th</sup> Week of Academic Calendar
6. Showing of corrected Assignment answer sheets to students, marks entry in ISO Form and Assignment sheets submission to Exam Section should be done during the 16<sup>th</sup> Week of Academic calendar.

### **2. Mid Semester Examination :**

#### **Guidelines:**

MSE Question paper is of 30 Maximum Marks and for 1 Hr. duration based on section 1. Question paper should be as per the ISO Format and Bloom's Taxonomy. Two question papers of similar difficulty level should be set per subject so that students sitting next to each other will get unique question papers. If students are less for some courses like electives, single set of question paper is sufficient.

#### **Mode of Conduction:**

MSE Exam will be conducted at Department Level in regular Theory Classes. The MSE Mode of Conduction should be reflected in FF182 Course plan. Mode of conduction can be Multiple choice questions or regular Questions, Numericals etc.

**Deadlines:** (please refer detailed Academic Event Calendar for exact dates)

1. The Mid Semester Examination Time Table should be displayed at Department on Monday of 8<sup>th</sup> Week of Academic Calendar for A.Y. 2018-19.
2. Mid Semester Examination will be carried out in the 9<sup>th</sup> Week of Academic Calendar.
3. The answer sheets can be shown during 10<sup>th</sup> Week.



### 3. Lab :

#### **Guidelines:**

Lab In Semester Assessment consists of 60% weight age for Lab assignments and 40% for Course Project. Lab consists of 6 Lab assignments and one course project. Both lab experiments and course project will only have **in semester assessment**. Subject teacher will have to list out 10 Lab assignments and 6 course project areas in the syllabus. Out of the mentioned 10 lab assignments, **6 will be performed in Lab**, three from section 1 and three from section2. Along with it list of 6 project areas, three from Section 1 and three from Section 2 will be given in the Syllabus. Students will choose **one project area** and work on the project in a group of 4-5 students belonging to the same Batch. The Lab Teacher will be the Project Guide.

A Lab assignment can include the following

- (a) Regular Labs
- (b) Field Surveys
- (c) Design Problems
- (d) Literature Surveys
- (e) Case studies
- (f) Any other with approval of Chairman BOS and Dean Academics office

#### **Mode of conduction:**

**The assessment of Lab is based on In Semester Assessment (ISA) only.**

a. Lab Assignments–60 marks

b. Course Project Assessment– 40 marks

The total 100 marks will be reduced to 30 to be entered in the ERP along with Viva and Assignment.

The Project status Review should be carried out regularly in lab sessions.

#### **Deadlines:**

The Project Group formation and Project area finalization to be computed latest by Friday of 4<sup>th</sup> Week of Academic Calendar.

Display of Lab exam marks to students and marks entry in ISO Form latest by Thursday of 17<sup>th</sup> Week of Academic calendar.

#### **Lab In Semester Assessment -**

Each of the Lab Assignments will be out of 10 marks. So in total 60 Marks for 6 Lab experiments.

The marking scheme/ Rubrics for every lab assignment will be as follows –

#### **Lab Assignment**

Mark Distribution for a Lab (10 marks)

Attendance and timely completion	Performance of practical	Overall understanding
(2M)	(4M)	(4M)

#### **Course Project In Semester Assessment**

The Course Project consists of In Semester assessment of 40 Marks. The marking scheme/ Rubrics for course project In Semester assessment are as attached in Annexure.

Lab, Viva and Home assignment marks will be added together and then entered in ERP Software as per the date of Academic Calendar.

#### **4. Viva:**

##### **Guidelines:**

Course Viva will be conducted at end sem to test the theoretical understanding of students and will be 20 % of entire assessment. Viva will be conducted for 100 Marks and then reduced to 20%. In the Viva, only conceptual understanding should be focused since the hands on component has been already tested in the Lab assessment. The marks for the Lab, Assignment and Viva should be filled in relevant ISO Form of the Institute.

##### **Mode of conduction:**

The Viva will be conducted at department level Batchwise and students should be thoroughly examined to assess their conceptual understanding. For this, it is recommended that the Viva should be conducted in Group of not more than 2 students and for duration of 20 minutes per group.

**Deadlines:** (please refer detailed Academic Event Calendar for exact dates)

1. The Time Table of the Viva should be displayed at Department and submitted to Dean Academic's Office by 16<sup>th</sup> Week
2. Viva will be conducted in the 19<sup>th</sup> Week as per Academic Calendar
3. Marks entry (Viva + Lab + Assignment marks total out of 60) should be done by Friday of 19<sup>th</sup> week as per Academic Calendar. Also display of marks to students and entry in ERP software will be done on Friday of 19<sup>th</sup> week as per Academic Calendar.

#### **5. End Semester Evaluation(ESE)**

##### **Guidelines:**

ESE Question paper is of 100 maximum Marks and for 3 Hrs. duration based on section1 and section 2. Question paper should be as per the ISO Format and Bloom's Taxonomy. Section 1 weightage is for 34 Marks consists of 2 questions and section2 weightage is for 66 Marks consists of 4 questions.

##### **Mode of Conduction:**

ESE exam will be conducted centrally by Exam Section. Institute level Timetable will be given by Exam section to all students and Faculty.

**Deadlines:** (please refer detailed Academic Event Calendar for exact dates)

1. End Semester Examination will be carried out in the 17<sup>th</sup> and 18<sup>th</sup> Week of Academic Calendar.
2. ESE paper assessment will be done during 17<sup>th</sup> and 18<sup>th</sup> Week of Academic Calendar.
3. Result of ESE will be declared by Exam section. The answer sheets will be shown to students during 19<sup>th</sup> week of Academic calendar.

#### **6. Engineering Design and Development (EDD)**

##### **Mode of Conduct:**

Guide allocation will be done at Departmental level. Each Group of 5 Students will perform the Project. EDD In Semester Assessment will be conducted at department level. EDD End Semester assessment should be carried out by external examiners in all departments. EDD Grade entry will be done in ERP software. The EDD Project Group formation, Project area finalization and allotment to faculty needs to be done at

department level as per guidelines given below.

### **EDD Implementation**

EDD Implementation is to be done based on fulfilling the following requirements

- 1) EDD should allow Multi Disciplinary approach. ( Currently this is possible for same year students only )
- 2) Student must have ability to choose faculty available in their time table slot as guide
- 3) Project inputs should be given as per project requirement only.

### **Procedure for student allotment -**

- 1) Project groups (5 students per group) should be formed. Eg For a class of 60 students they will be around 12 groups
- 2) Student of S.Y. B.Tech. & T.Y. B.Tech. will be given list of faculty available in their respective time table slots. The Time Table Co-ordinators will find list of available faculty in EDD slots.
- 3) If faculty is busy in both (S.Y. B.Tech., T.Y. B.Tech.) slots – no EDD project will be allotted to them
- 4) Allotment of project groups to faculty should be based on :
  - a) Student choice – The Student groups will choose from the available faculty and based on their project area.
  - b) Faculty availability & Faculty Project vacancy. Faculty also have choice on whether to accept a group or not. But Head must ensure that

available faculty must get between 4 to 8 project groups

- 5) After project allotment the project lists should be compiled department wise and uploaded on Google classroom of Dean Academics.
- 6) Project groups will approach faculty as per given slot and Project centric inputs given to students
- 7) For multi disciplinary projects faculty from every related Departments will be guides
- 8) The Division Time Table should reflect 6 Hrs for EDD

### **EDD Assessment**

**EDD Assessment will have both in semester and End Semester Components**

#### **(A) EDD In semester Assessment –**

The EDD continuous assessment is of 50 Marks.

The marking scheme/ Rubrics for EDD project In Semester assessment is as mentioned in Annexure.

#### **(B) EDD End Semester Assessment**

The EDD End Semester Assessment is of 50 marks.

The marking scheme/ Rubrics for EDD project End Semester assessment as mentioned in Annexure.

### **Deadlines:**

1. EDD project group and area finalization should be done by 4<sup>th</sup> week
2. EDD End Semester Assessment should be conducted on Saturday 19<sup>th</sup> Week of Academic Calendar.

3. Display of EDD marks to students and entry in ERP software should be completed by Monday 20<sup>th</sup> week of academic calendar.

### 7. Seminar:

The Seminar progress is reviewed during the Mid-Semester Examination as per the academic calendar. The seminar is presented at the end of the semester. The seminar evaluation scheme is as under:-

Parameter	Marks
i) Attendance during Semester	10
ii) Attendance during Seminar presentation – Self and Peer	10
iii) Relevance of Seminar topic	10
iv) Timely abstract submission	10
v) Literature review	10
vi) Technical contents	10
vii) Presentation	25
viii) Question and Answer Session	15
<b>TOTAL</b>	<b>100</b>

### 8. Professional Development (PD):

PD Assessment and evaluation schemes are mentioned in Annexure attached.

### 9. General Proficiency (GP):

#### GP1:

The GP1 course is offered to students at first year and develops multifold talents in the students. Students can take elective of their choice from list of various subjects in music, dance, sports, social activities, instruments, languages, Photography Yoga etc.

#### GP2:

Second Year Students are expected to plan, execute and actively participate in any one or more pre-determined social activities (under the supervision of faculty and members of team Student Council/VIT-Socials) for duration of 30 hours of which 10 hours are orientation

sessions and 20 hours of social activities. These activities will be carried out at various locations jointly with Non-Government Organizations, Semi-Govt. authorities, Govt. authorities, Social Forums, Foundations, etc.

Student is expected to prepare and submit a report under the supervision of Guardian faculty on Vishwakarma Online Learning Platform.

### List of Project areas includes:

1. Cleanliness drives at pre-defined places
2. Street Plays for social, economic awareness of citizens (drugs, corruption, election awareness, cleanliness, etc.)
3. Tree Plantation
4. Digital Literacy: Impart training regarding use of digital media for bill payments
5. Teach for India: Training of school students in rural areas, government schools
6. Rain harvesting related activities
7. Awareness of Various Govt. schemes for benefit of citizens
8. Women empowerment
9. Contribution towards plastic free environment
10. Skill India: Training for skills development to unemployed youth

### Conditions for Passing GP2 course:

To pass this course a student needs to do 8 hour (1 day) activity as given above and submit its detail report along with photographs.

If a student does the social activity but fails to submit the report within the given deadlines, student will not pass the GP2 course.

#### GP3:

Third Year Students are expected to actively participate in any one or more of

the following approved activities for a minimum duration of 40 hours:

**Identified Areas:**

1. **Technical & Allied Activities:** (Department level Student Chapters, Technical Forums, Related Club Activities, Events – In & outside Institute, etc.)
2. **Social Activities:** (Aatmabodh, Blood Donation, Organ Donation Drive, Drishti, NSS Camp, Social Awareness through Street Plays, etc.)
3. **Sport Activities:** (Organize, Conduct, Participate in sports competitions (at institute-, district-, state-, national-, and international level), workshops, programs, etc.)
4. **Extra-Curricular Activities:** (Organize, Conduct, Participate in related club activities, extra-curricular related competitions (at institute-, district-, state-, national-, international level), workshops, etc.)
5. **Managerial & Leadership Skills Related Activities:** Activities related with planning, organizing, staffing, executing & controlling events, programs, etc.

**Refer the Annexure for student preparation for GP course**

**Conditions for Passing GP3 course:**

To pass this course a student needs to do cumulative 40 hours activity (from First year to Third Year) as given above and submit its detail report along with photographs.

If a student does the social activity but fails to submit the report within the given deadlines, student will not pass the GP3 course.

**10. Internship:**

There will be 2 reviews and one final assessment of every internship. Since internship is supposed to last for 4.5

months, the first review will be done after 1.5 months, 2nd review after 3 months and the final exam will be done in the beginning of 5th month.

It is expected that both the reviews are conducted in the industry where the internship is being carried out, but in case an industry is not willing to entertain our teachers twice a semester in their premises then teachers may do the 2nd review in the industry. In such a scenario the 1st internship will be conducted in VIT (student can be asked to come to college for Review 1 at a suitable time/day)

In case an internship is being done out of Pune (anywhere in India) only 1 review may be conducted in the industry. This should be done by Heads of Department/ Deans after discussion with director as per the need.

For internships done abroad or any internship where industry does not permit our faculty to visit their premises or when it is not possible to visit the industry to do reviews the reviews and final assessment will be done over skype.

Both the reviews will be done by the internal guide along with the industry guide. The final assessment will be done by internal guide along with an academic expert (outside VIT) and by an industry expert (from another industry). Department Industry coordinators will coordinate this activity with support from the entire department.

The external evaluators (industry guide/ Academic expert outside VIT/ External industry expert) will not give marks to the students but mention the performance of the student in five categories : Excellent / Very Good/ Good/ Average/ Poor.

External examiners may also give written comments on the quality of the project in the relevant ISO form.

The internal examiners will assign grades based on their own assessment and also taking into account the performance of student mentioned by external examiners as mentioned in the point above.

### 11. Grading Scheme

The marks obtained by the student in various courses as per the assessment scheme mentioned above are graded relatively. The Institute offers the following 7 passing grades and 2 failure grades along with some specific grades for detention, absenteeism, etc. The grading system is as follows

Grade for FY students 2018-19	Grades for SY/TY/Fourth year students 2018-19	Grade point	Performance remark
A+	AA	10	Excellent
A	AB	9	Very Good
B+	BB	8	Good
B	BC	7	Fair
C+	CC	6	Above Average
C	CD	5	Average
D	DD	4	Below Average
F	FF	0	Fail(Re-register the course)
P	PP	---	Passed(Only for Non-Credit courses)
NP	NP	---	Not Passed(Only for Non-Credit courses)

**II** remark is for **absent** student and **XX** is for **detained** student. Both are treated as **FF** for further re-registration process.

### 12. Calculation of Semester Performance Index (SPI)

Based on the grade obtained and its mapping with the Grade Point Average (GPA) as mentioned above, a Semester Performance Index (SPI) is calculated. A student having earned all the credits gets the SPI applicable for the performances in that semester. It is shown in the statement of grades provided to the student at the end of Semester.

#### Case Study

Consider the performance of a student as under :-

Subject	Type	Credits	Letter Grade	Grade Point
S <sub>1</sub>	TH	3	AA	10
S <sub>2</sub>	TH	3	AB	9
S <sub>3</sub>	TH	3	BB	8
S <sub>4</sub>	TH	3	AB	9
S <sub>5</sub>	OE	2	BC	7
P <sub>1</sub>	Lab.	1	AB	9
P <sub>2</sub>	Lab.	1	BB	8
T <sub>1</sub>	TU	1	AA	10
T <sub>2</sub>	TU	1	AB	9
GP <sub>3</sub>	GP	1	BC	7
CVV <sub>1</sub>	CVV	2	CC	6
MP <sub>3</sub>	Proj.	2	BB	8

SPI is calculated as :-

$$\text{SPI} = \frac{(GP_1 \times C_1) + (GP_2 \times C_2) + \dots + (GP_n \times C_n)}{C_1 + C_2 + \dots + C_n}$$

Therefore, for the case mentioned above, SPI would be

$$\text{SPI} = \frac{30 + 27 + 24 + 27 + 14 + 9 + 8 + 10 + 9 + 7 + 12 + 16}{23}$$

$$= \frac{193}{23} = 8.39$$

### 13. Calculation of Cumulative Performance Index (CPI)

Based on the SPI obtained in each semester, a Cumulative Performance Index

is calculated as the running average of SPI obtained till that Semester. The CPI obtained at the end of the 8<sup>th</sup> Semester is considered as the final CPI.

For the student admitted in First Year of Engineering, it is the running average of 8 SPIs from F.Y. B.TECH. Semester I to FINAL YEAR B.TECH. Semester II.

For the student admitted under Second Year Direct Admission (SEDA), it is the running average of 6 SPIs from S.Y. B.TECH. Semester I to FINAL YEAR B.TECH. Semester II.

### Case Study

Consider the performances of a graduating student as under :-

Semester	SPI	CPI
F.Y. B.TECH. – Semester I	8.46	8.46
F.Y. B.TECH. – Semester II	8.74	8.60
S.Y. B.TECH. – Semester I	9.02	8.74
S.Y. B.TECH. – Semester II	8.84	8.77
T.Y. B.TECH. – Semester I	9.12	8.84
T.Y. B.TECH. – Semester II	8.62	8.80
FINAL YEAR B.TECH. – Semester I	9.06	8.84
FINAL YEAR B.TECH. – Semester II	9.24	8.89
<b>FINAL CPI</b>	<b>8.89</b>	

A consolidated Statement of Grades is provided to the student upon completion of minimum credit requirement at the time of graduation. The consolidated statement of grades shows the performance of the student in all courses registered for during the 8 semesters. It also states the performance of the candidate in other optional courses such as Honors / Minor

stream, sit-through courses, audit courses, additionally registered courses, etc.

This unique document helps the student showcase the overall performances, the subject studied alongwith other details.

### 14. Measures to control Academic Malpractices

Every student during term of the examination is under the disciplinary jurisdiction of the competent authority that takes appropriate action in case of indiscipline or misconduct on part of student.

The competent authority during the actual conduct of examination appoints a junior supervisor, senior supervisor & flying squad and ensures that examinations are conducted as per the laid down norms. It also checks the students trying to resort to malpractices at the time of examination. The squad also ensures that only the duly authorized candidates have appeared for the concerned examinations.

A lapses committee handles the cases of malpractice reported by the supervisors or flying squad. The Committee handles various types of malpractices resorted to by the students such as possession of copying material, actual copying from the copying material, possession of another student's answer book, mutual copying, etc. A reasonable opportunity including oral hearing is given to the student in his / her defense before the Committee. The Committee then submits its recommendation to the competent authority which, in turn, issues final orders with regards to suitable penal action such as

a. Any electronic equipment (like mobile phones/iwatch etc.) that is confiscated from students during examination shall not be returned.

b. Students who are found indulging in any malpractices shall be

- i. In their first instance fail in the course in which malpractice was detected
- ii. In their second instance fail in all the courses of that particular semester.
- iii. In their third instanced debarred from the institute.

**15. Answer sheets display to students:**

Answer scripts for summative examination are shown to students with Model Answer paper and marking scheme.

After seeing the answer sheet, if student has grievance, it will be resolved by examiner.

After this entire process, if still student has grievance, he can report to exam section with revaluation application.

**16. Answer sheets retention:**

Answer scripts for summative examination are stored for a period of 6 months after the examination by the Examination Section.

**17. Class Improvement**

It is unanimously resolved that CPI improvement will be allowed to :

- (1)
  - (a) Student who has earned all prerequisite credits as applicable and are otherwise eligible to be awarded the Bachelor's Degree and declared pass.
  - (b) Student: with  $CPI < 6.75$
  - (c) has submitted previous Grade Sheet and Degree Certificate to College Office.
  - (d) has minimum 75% attendance for all Theory Courses considered for CPI improvement.
  - (e) has satisfactorily completed teaching – learning process for every registered course and has undergone all In Semester and End Semester Assessments.

(f) has submitted undertaking to College Office about CPI Improvement Rules.

(2) CPI improvement will be permitted within 5 years after completion of graduation.

(3) Maximum 3 attempts will be allowed for CPI improvement.

(4) It is unanimously resolved that, 3 papers should be allowed to appear for grade improvement. And only 3<sup>rd</sup> year and 4<sup>th</sup> year subjects are allowed for this scheme.

Reference will be: - circular of SPPU (out of 5, 6, 7, and 8th semester, any one semester should be selected by the student and any three subjects of that semester).

It is also decided that 3 chances within 5 years of graduation is allowed for Class Improvement scheme.

It is decided that letter of appreciation should be given for best question paper.

(5) One attempt is equal to registration for minimum number of credits as mentioned above

(6) For every attempt the student must register for the minimum number of credits.

(7) Student CPI improvement will be considered for :  
Case- 1 : Student having previous  $CPI < 6.25$  and after improvement  $CPI$  is equal to or more than 6.25

or otherwise the performance for this attempt will be made Null & Void.

Case- 2 : Student having previous  $CPI < 6.75$  and after improvement  $CPI$  is equal to or more than 6.75



or otherwise the performance for this attempt will be made Null & Void.

### **18. Examination and assessment policy for failure students**

#### **Scheme for Not Year Down students:**

For eg. SY student having backlog of FY, TY student having backlog of SY, Final year student having backlog of TY.

1. If student has backlog, then he can register such courses in summer term with maximum 25 credits
2. Student can reregister in Sem1 or sem2 with maximum credit limit 10.

#### **Scheme for Year Down students:**

i) For securing admission to Third Year (T.Y. B.TECH.), the student must have earned all the credits of First Year (F.Y. B.TECH.) as per applicable pattern.

ii) For securing admission to Final Year (FINAL YEAR B.TECH.), the student must have earned all the credits of

Second Year (S.Y. B.TECH.) as per applicable pattern.

iii) The student failing to meet condition (i) or (ii) above, is expected to re-register upto 25 credits in a semester for the backlog courses during the next academic year as per calendar. Once the said credits are earned, the student may register for courses of the next year (T.Y. B.TECH. or FINAL YEAR B.TECH. as applicable) only in the subsequent academic year.

He can register upto 25 credits in Summer term also.

#### **Scheme for Off campus students:**

1. Off Campus failure Student can reregister in Sem1 or sem2 with maximum limit of 25 credits.
2. He can register upto 25 credits in Summer term also.

*Prepared by : Prof. Rahul Waikar, Member Secretary – Academic Board*

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**Bansilal Ramnath Agarwal Charitable Trust's**  
**VISHWAKARMA INSTITUTE OF TECHNOLOGY, PUNE – 37**  
**(An Autonomous Institute Affiliated to Savitribai Phule Pune University)**

**Annexure**

❖ **Course project Assessment:**

<b>Course project In Semester Assessment</b>			
Attendance and reporting(10M)	Design and implementation (10M)	Demonstration (10M)	Viva and Report (10M)
<ul style="list-style-type: none"> <li>➤ 2 Marks - Group Formation and Topic finalization</li> <li>➤ 3 marks - Attendance</li> <li>➤ 5 marks - Regular reporting for project discussion and implementation</li> </ul>	<ul style="list-style-type: none"> <li>➤ 3 marks - Design (Block diagram/Circuit Diagram/Algorithm/design calculation/CAD model )</li> <li>➤ 4 marks – Manufacturing (component assembly/ writing code/circuit boards/Simulation</li> <li>➤ 3 Marks - Testing and results</li> </ul>	<ul style="list-style-type: none"> <li>➤ Marks must be prorated based on level of working of project</li> </ul>	<ul style="list-style-type: none"> <li>➤ 5 Marks - Viva</li> <li>➤ 5 Marks - Report in paper format .</li> </ul>

❖ **EDD Insemester and End Semester Assessment**

<b>EDD project In semester Assessment</b>		
<b>Mark Distribution for EDD Project (50marks)</b>		
Group Formation and problem statement finalization (10M)	Attendance, Regular reporting, Timely Completion and Progress of Project (10M)	Project Design, implementation and testing(30M)

		<ul style="list-style-type: none"> <li>➤ 10marks- Design (Block diagram/Circuit Diagram/Algorithm/design calculation/CAD model )</li> <li>➤ 10 marks- Manufacturing (component assembly/ writing code/circuit boards/Simulation</li> <li>➤ 10 Marks- Testing and results</li> </ul>
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EDD project End Semester Assessment	
Project quality and Demo (20M)	Project Viva, Report writing and overall understanding (30M)
<ul style="list-style-type: none"> <li>➤ Marks must be prorated based on level of working of project</li> </ul>	<ul style="list-style-type: none"> <li>➤ 20Marks- Overall Understanding</li> <li>➤ 10Marks- Report in paper format.</li> </ul>

❖ EDD marksheet:

### EDD / D&D PROJECT EVALUATION SHEET

Department :

Subject Code :

Academic Year:

Class:

Div:

Batch :

Semester:

Roll No.	GRN No.	Name of Student	In Semester assessment(50M)			End Semester assessment(50M)				Total (100 M)	Grade
			Date of ISA:			Date of ESA:					
			Group Formation and problem statement finalization (10M)	Attendance, Regular reporting, Timely Completion and Progress of	Project Design, implementation and testing (30M)	Project quality and Demo (20M)	Project Viva (10M)	Report writing (10M)	Overall Understanding (10M)		

				<b>Project (10M)</b>								

**Grades: AA (90%-100%) AB (80%-89%) BB (70%-79%) BC (60%-69%) CC (50%-59%) CD (45%-49%) DD (40%-44%) FF (<40%) XX (Detained)**

### ❖ Internship Assessment

#### Subject: Internship Assessment Scheme

The Final Year B.Tech.internship grade will be finalized after assessing the internship by Continuous Assessment and End semester assessment. The distribution of internship assessment as finalized in the Deans and Heads meeting is as follows:

Assessment	Weightage	Assessment based on:	% Weightage
Continuous Assessment	50%	Review 1 : Based on the following (As applicable)	20
		<ul style="list-style-type: none"> <li>• Literature Review</li> <li>• Problem scope</li> <li>• Problem definition</li> <li>• Requirement Analysis</li> </ul>	
		Review 2 : Based on the following (As applicable)	30
		<ul style="list-style-type: none"> <li>• Methodology to solve problem</li> <li>• Implementation</li> <li>• Preliminary results</li> </ul>	
End Semester Assessment	50%	Final Review : Based on the following <ul style="list-style-type: none"> <li>• Implementation</li> <li>• Observations</li> <li>• Results</li> <li>• Conclusion</li> </ul> Internship Report is must and can be in Soft Copy.	50

The external examiner will not give marks to the students but mention the performance of students in five categories Excellent/Very good/ Good/ Average/ poor.

❖ **PD Assessments:**

**PD1 :**  
**PD1 focuses on**

**Section 1: Campus Awareness**

- Institute information- Overall orientation, tour to college campus, Guidance to students about future.
- Branch wise Opportunities -Exposure to the department level activities, scope of the department
- Rules, dress code & Ethics-Rules to be followed on college campus, Dress code to be followed by students
- SWOC Analysis- Doing SWOC of organization, a well known personality or friend.
- Importance of mandatory documents. Indian students must possess Aadhar, Passport, Driving License, Voter Id, Credit/ debit card, International students must have valid passport & visa approval, driving license, address proof.
- Life Skills- Appreciating skills like negotiation, time management, positive thinking, recognizing diversity, networking etc. Contribution towards society, social initiatives.
- Effective utilization of winter & summer vacation.

**Section2: Self Awareness**

- SWOC Analysis-Self Analysis, Doing SWOC for self (Strengths, Weakness', Opportunities, Challenges)
- Career opportunities- Finding the future career opportunities, Guidance by expert, Finding own long term short term and medium term goals.
- Importance of English and foreign languages. Formal mechanisms of Language proficiency certifications like TOFEL, IELTS, PET, JLPT, TestDaF, DSH, TCF etc.
- Career planning, making choices of career - Filling up career choices form.
- Project, Innovation & Research - comparison. Writing SOPs. Importance of peer review & publications, protecting intellectual property - trademark, copyright & patents.

**Submissions :** Submissions to be accepted as scanned soft copy. Checklist to be prepared as follows

Student Roll No	GR N	Name	Aadhar card /(India & abroad Address proof for international students)	Passport	Driving License	Credit/ debit card	Voter ID	English or foreign language proficiency proof	Aptitude assessment proof (Must)	SOP of one research statement (Must)	Career planning form submission (Must)	SWOC Self - Analysis (Must)	Grade P /NP
			1	2	3	4	5	6	7	8	9	10	*
1	180103	Abc - def	Y	Y	Y	N	N	Y	Y	Y	Y	Y	

*Note: \*More than 7 Y ' s mandatory for Pass grade*

## PD2 :

### PD2 focuses on

#### Section 1: Self development

- Resume writing-What is resume? Dos and don'ts of resume writing, Importance of resume writing, Description of skills and competencies, Description of projects, Describing tool technology and domain.
- Higher education-Importance of higher education, Opportunities after higher education ( India and abroad), information about various entrance exams
- Private job domain- Branch specific opportunities, Design, manufacturing, service, administrative.
- Civil & Defense services, PSU's -Introduction to competitive exams,

#### Section2: Topics/Contents

- Entrepreneurship ventures- Innovation, idea generation, prototype and commercials involved, steps involved in new company set up.
- Life Skills- Appreciating skills like problem solving, conflict management, creative thinking, prioritizing, networking etc. Contribution towards society, social initiatives.
- Project, Innovation & Research - comparison. Writing SOPs. Importance of peer review & publications, protecting intellectual property - trademark, copyright & patents.
- Effective utilization of vacation period.

**Submissions :** Submissions to be accepted as scanned soft copy. Checklist to be prepared as follows

Student Roll No	GRN	Name	Resume (Must)	SOP of one research statement (Must)	Career planning form submission (Must)	Aptitude Test (Must)	SWOC Self - Analysis (Must)	Grade P /NP
			1	2	3	4	5	*
1	180103	Abc - def	Y	Y	Y	Y	Y	

*Note: \*all Y 's mandatory for Pass grade*

## PD3 :

### PD3 focuses on

#### Section 1: Soft Skills

- Story Telling – Improvement in communication skills, enhancement in creativity,
- Group Discussion- Importance of teamwork, definition of role, body language during GD's, do's and don'ts
- Personal Interviews- Types of interviews, interview etiquettes, table manners.
- Internship - Selection of organization, attitude and behavior as intern.
- Life Skills- Complex problem solving, Crisis management, risk analysis.
- 

#### Section2: Technical / Employability skills

- Career goals- defining long term, medium term and short term goals, to define a career path.
- Technical Sessions- expert sessions on Machine Learning, IoT, Supply Chain Management, Industrial Automation, Block Chain, Artificial Intelligence, etc
- Employability skills- Updating resume, CRTP test
- Research-Research publications, patent filing, IPR
- Effective utilization of vacation period.

**Submissions :** Submissions to be accepted as scanned soft copy. Checklist to be prepared as follows

Student Roll No	GRN	Name	Resume (Must)	SOP of one research statement (Must)	Career planning form submission (Must)	Aptitude Test (Must)	SWOC Self - Analysis (Must)	CRTP Test (Must)	Grade P /NP
			1	2	3	4	5	6	*
1	180103	Abc-def	Y	Y	Y	Y	Y	Y	

*Note: \*all Y ' s mandatory for Pass grade*

#### PD4 :

#### PD4 focuses on

#### Section 1: Competitive/ Entrance exams

Importance, types, Motivating students, exam schedules, follow up, steps of application, opportunities

#### Section2: Internship and placements

- Types of internship: Core and IT, Duration, Identification of industry, importance
- Placements :SWOC analysis, Identification of area of interest , placement opportunities, Preparation of interview for placements,

**Submissions :** Submissions to be accepted as scanned soft copy. Checklist to be prepared as follows

Student Roll No	GRN	Name	Resume	SOP of one research statement	Career planning form submission	Aptitude Test /International Language test	SWOC Self - Analysis	Competitive exam result proof	Entrance exam result proof	Grade P /NP
			1	2	3	4	5	6	7	*
1	150103	Abc-def	Y	Y	Y	Y	Y	Y	Y	

*Note: \*Six Y ' s mandatory for Pass grade*

#### GP Course:

Student is expected to prepare and submit a report under the supervision of Guardian faculty on Vishwakarma Online Learning Platform.

Classification of Club Activities				
Technical	Social	Self-Development	Cultural	Sports
<ul style="list-style-type: none"> <li>• Antariksh (Astronomy Club)</li> <li>• The Robotics Forum</li> <li>• Programmer's Hub</li> <li>• GCC (Coder's Club)</li> <li>• SAE Collegiate</li> </ul>	<ul style="list-style-type: none"> <li>• DIVA (Women Empowerment)</li> <li>• VIT Socials (Aatmabodh, Blood Donation, Drushti, NSS Camp, Police Mitra)</li> <li>• Model United</li> </ul>	<ul style="list-style-type: none"> <li>• V-Click (The Photography Club)</li> <li>• Speakers Club</li> <li>• Personality Development Club</li> <li>• Civil Services Study Circle</li> <li>• EDC</li> </ul>	<ul style="list-style-type: none"> <li>• MIRAGE (Film Appreciation Club)</li> <li>• Zephyr (The Dance Club)</li> <li>• VIKULP</li> <li>• Pi-Editorial Board</li> <li>• VIT Poets Society</li> </ul>	<ul style="list-style-type: none"> <li>• Let's Trek</li> </ul>

<ul style="list-style-type: none"> <li>• Club (Baja, Supra, Effi-cycle, Go-karting, Endurance, Veloce)</li> <li>• Ekasutram (Maths Club)</li> <li>• Aero Modeling</li> <li>• Student Chapters (IEEE, ISA, ASHRAE, IETE, CHESA, PIESA)</li> <li>• TEDx</li> <li>• Trident Labs</li> <li>• Technocrats</li> </ul>	Nations	<ul style="list-style-type: none"> <li>• Abhivridhhi (Students Training &amp; Development)</li> <li>• Investment Forum</li> </ul>		
Vishwakarandak Melange	Vishwakarandak Melange	Vishwakarandak Melange	Vishwakarandak Melange Vishwotsav	Vishwakarandak Melange



## APPENDIX – A

### Glossary of Terms

<b><i>Academic Flexibility</i></b>	Choice offered in the curriculum offering
<b><i>Admission Process</i></b>	Process of admitting students by a transparent well established and administered mechanism complying with all Government norms
<b><i>Academic Calendar</i></b>	The schedule of the Institute for the Academic Year giving details of all academic and other events
<b><i>Curriculum Design and Development</i></b>	Process of designing and developing appropriate curricula through a need assessment process and consultation with expert groups based on the feedback from the stake holders, resulting in the development of relevant courses to meet the professional and personnel needs of the students
<b><i>Choice Based Credit System</i></b>	Envisages facilities created for a learner to augment the credits by maximizing performance within a given time frame or outside. Only a wide range of course choice makes it feasible. Such a system is called Choice Based Credit System or a Cafeteria model.
<b><i>Elective Options</i></b>	A choice available to students to select from among a large number of courses
<b><i>Formative Assessment</i></b>	Frequent or ongoing evaluation during courses, programs and learning experiences that gives an early indication of what students are learning as well as their strengths and weaknesses. It is used as a diagnostic tool for students and faculty to make real time improvements in instructional methods, materials, activities, techniques and approaches
<b><i>Horizontal Mobility</i></b>	The option for movement of students within and across the disciplines
<b><i>Learning</i></b>	Acquisition of new knowledge or skills through evaluation, study, experience and innovation
<b><i>Mission</i></b>	It refers to the overall function of the organization. Mission answers the question “What is the Institute attempting to accomplish?” Mission defines students, stake holders, distinctive or core competencies
<b><i>Summative Assessment</i></b>	Formal and comprehensive analysis of the learning and performance of students covering global subject matter, typically conducted at the conclusion of course or program and used for determining final grades
<b><i>Teaching – Learning</i></b>	Learner centered education through appropriate methodologies to facilitate effective teaching and learning
<b><i>Vision</i></b>	It refers to the desired future state of the Institution. It describes what the Institute intends to be and how it wishes to be perceived in the future.

**Reference :-** 1) NAAC Manual for Self Study – Autonomous Colleges  
2) Indian Merchants Chamber Ramakrishna Bajaj National Quality Award  
Education Sector Information Brochure – 2010 - 2011



**Bansilal Ramnath Agarwal Charitable Trust's**  
**VISHWAKARMA INSTITUTE OF TECHNOLOGY, PUNE – 37**  
**(An Autonomous Institute Affiliated to Savitribai Phule Pune University)**

**APPENDIX – B**

**List of Abbreviations**

<b>Sr.No.</b>	<b>Abbreviation</b>	<b>Full Form</b>
1.	A.B.	Academic Board
2.	B.Tech.	Bachelor of Technology
3.	B.O.M.	Board of Management
4.	B.O.S.	Board of Studies
5.	C.B.S.	Credit Based System
6.	C.P.I.	Cumulative Performance Index
7.	C.V.V.	Comprehensive Viva Voce
8.	D.E.S.H.	Department of Engineering, Sciences and Humanities
9.	E&T	Engineering and Technology
10.	E&TC	Electronics & Telecommunication
11.	EL	Elective
12.	E.R.C.	Engineering Research Centre
13.	F.Y.B.Tech.	First Year Bachelor of Technology
14.	G.E.M.	Groupe Des Ecoles Des Mines
15.	G.P.	General Proficiency
16.	G.P.A.	Grade Point Average
17.	H.S.S.	Humanities and Social Sciences
18.	M.C.A.	Master of Computer Applications
19.	M.D.	Multi-Disciplinary
20.	M.Tech.	Master of Technology
21.	MoU	Memorandum of Understanding
22.	M.P.	Mini Project
23.	NP	Not Passed
24.	O.E.	Open Elective
25.	O.M.G.	Ontario-Maharashtra-Goa
26.	P	Passed
27.	P.D.	Professional Development
28.	P.E.O.	Programme Educational Objectives
29.	P.G.	Post Graduate
30.	Ph.D.	Doctor of Philosophy
31.	S&M	Sciences and Mathematics
32.	S.D.	Skill Development
33.	S.Y.B.Tech.	Second Year Bachelor of Technology
34.	SEDA	Second Year Direct Admission
35.	S.P.I.	Semester Performance Index
36.	T.Y.B.Tech.	Third Year Bachelor of Technology
37.	U.G.	Under Graduate