



ವಿಶ್ವೇಶ್ವರಯ್ಯ ತಾಂತ್ರಿಕ ವಿಶ್ವವಿದ್ಯಾಲಯ

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CIRCULAR

Subject: Updated Mandatory Internship Guidelines regarding...

This is with reference to the subject cited above, the students have to undergo a mandatory internship (21INT68-Innovation/ Entrepreneurship/ Societal Internship) of 04 weeks during the intervening period of the 4th and 5th semesters. The Mandatory Internship guidelines are updated for Societal Internship. The same is made available under the title Annexure-IV- Activities Under Internship @ <https://vtu.ac.in/en/be-btech/>

The Principals of all Affiliated Autonomous / Non-Autonomous/ Constituent College of Engineering coming under the ambit of the University are hereby informed to bring this information to the notice of the faculty and students concerned.

Sd/-
REGISTRAR

To,

1. The Principals of all affiliated/ constituent /Autonomous Engineering Colleges under the ambit of VTU Belagavi.
2. The chairperson, Department of Mechanical Engineering /Civil Engineering /Computer Science and Engineering and Business Studies of the University.

Copy to.

1. To the Hon'ble Vice-Chancellor through the secretary to VC, VTU Belagavi for information
2. The Registrar (Evaluation), VTU Belagavi for information.
3. The Regional Directors (I/c) of all the regional offices of VTU for circulation.
4. The Director I/c. ITI SMU, VTU Belagavi for information and to make arrangements to upload the circular on the VTU web portal.
5. The Director of Physical Education, VTU Belagavi for information
6. PS to Registrar VTU Belagavi
7. All the concerned Special Officer/s and Caseworker/s of the academic section, VTU, Belagavi

REGISTRAR

VISVESVARAYA TECHNOLOGICAL UNIVERSITY

Jnana Sangama, Belagavi – 590 018, Karnataka



Mandatory Internship Guidelines

Applicable to University Constituent College, University PG Departments, and Affiliated Non-Autonomous Colleges and Autonomous Colleges offering B.E./B. Tech. Programs from Academic Year 2021 -22 under NEP 2020

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1.0 Introduction

The rise in global competition has prompted organizations to devise strategies to have a talented and innovative workforce to gain a competitive edge. Developing an internship policy is an impactful strategy for creating a future talent pool for the industry. The internship (a form of experiential learning) program not only helps fresh pass-outs in gaining professional know-how but also benefits corporate sectors. The internship also enhances the employability skills of the student passing out from Technical Institutions.

The following list provides a brief illustrative overview of the knowledge, skills, work habits, and character traits commonly associated with 21st-century skills and to be acquired by graduates:

- 1) Critical thinking, problem-solving, reasoning, analysis, interpretation, and synthesizing information.
- 2) Scientific literacy and reasoning, the scientific method.
- 3) Research skills and practices, interrogative questioning.
- 4) Creativity, artistry, curiosity, imagination, innovation, and personal expression.
- 5) Information and communication technology (ICT) literacy, media and internet literacy, data interpretation and analysis, computer programming.
- 6) Oral and written communication, public speaking and presenting, listening.
- 7) Economic and financial literacy, entrepreneurialism.
- 8) Global awareness, multicultural literacy, humanitarianism.
- 9) Environmental and conservation literacy, ecosystems understanding.
- 10) Civic, ethical, and social-justice literacy.
- 11) Leadership, teamwork, collaboration, cooperation, and facility in using virtual workspaces.
- 12) Perseverance, self-direction, planning, self-discipline, adaptability, initiative.
- 13) Health and wellness literacy, including nutrition, diet, exercise, and public health and safety.

The internship experience will augment outcome based learning process and inculcate various attributes mentioned above in a student in line with the graduate attributes defined by the NBA as well as NEP 2020

Following are the intended objectives of internship training;

- (i) Expose Technical students to the industrial environment, which cannot be simulated in the classroom and hence create competent professionals in the industry.
- (ii) Provide possible opportunities to learn, understand and sharpen the real time technical / managerial skills required at the job.
- (iii) Expose to the current technological developments relevant to the subject area of training.
- (iv) Use the experience gained from the industrial internship in discussions held in the classrooms.
- (v) Create conditions conducive to quest for knowledge and its applicability on the job.
- (vi) Learn to apply Technical knowledge in real industrial situations.
- (vii) Gain experience in writing reports in Technical works/projects.
- (viii) Expose students to the engineer's responsibilities and ethics.
- (ix) Familiarize with various materials, processes, products and their

- applications alongwith relevant aspects of quality control and safety measures.
- (x) Promote academic, career and/or personal development.
 - (xi) Expose the students to future employers.
 - (xii) Make students available to industry for employment.
 - (xiii) Understand the psychology of the workers and their habits, attitudes and approach to problem-solving.
 - (xiv) Understand the social, economic and administrative considerations that influence the working environment of industrial organizations.

Internship training helps the institute to:

- a) Build and enhance industrial relations.
- b) Make the placement process easier.
- c) Improve institutional credibility and branding.
- d) Improve the teaching learning process.
- e) Expose of Staff to Industrial process.
- f) Serve humankind.

1.1 Internships prescribed by VTU for B.E./B.Tech programs

In order to derive the benefits of an internship, VTU has introduced three (03) internships at three stages of the B.E./B.Tech program. These internships are scheduled as under (Table -1);

Table -1 Internships prescribed for B.E./B.Tech. programs starting from the academic year 2021 - 22			
Sl No	Particular	Duration of Internship	Schedule
1	Inter/Intra Institutional Internship Prescribed Credits: 02	03 Weeks	(i) During the intervening vacation of II and III semesters for students admitted to I semester. (ii) During the intervening vacation of III and IV semesters for lateral entry Diploma students admitted to III semester.
2	Innovation / entrepreneurship/Societal Internship Prescribed Credits: 03	04 Weeks	During the intervening vacation of IV and V semesters for all students.
3	Research Internship /Industry Internship Prescribed Credits: 15	24 Weeks	During the IV year of the programs. As VII and VIII semesters are swappable, Research Internship /Industry Internship earmarked for VIII semester can be taken up first during the beginning of IV year or after completing the VII semester coursework or vice versa.

1.2 Internship Obligations

All the internships are mandatory and are to be completed by earning a letter grade ranging from S to E. A candidate who does not take up the internship or does not complete or fails in the assessment shall have to complete it subsequently subject to the provisions of the Regulation governing the B.E./B.Tech. program. Each internship

	shall be considered as a head of passing and shall be considered for vertical progression.
1.3	<p>Internship Supervision</p> <ol style="list-style-type: none"> I. Internship shall be carried out under the supervision of a faculty mentor. The faculty mentor/guide should, II. Serve as a teacher, mentor, trainer, critic, leader and boss. III. Provide sufficient time to guide the interns. (Interns are students or a trainees who does a job to gain work experience) IV. Play a vital role, along with the Training and Placement Officer, in providing internship opportunities for the students. V. Exhibit qualities such as leadership, strong communication skills, and patience. VI. Provide letter of recommendation in due consultation with students and the organization (if possible) where internship is intended to be carried out, endorsed by the authority (Principal/Institution Internship Coordinator). <p>It is mandatory for a Faculty to supervise the internship activities even during the intervening period between odd and even semester irrespective of the vacation period. Each Faculty shall supervise not more than 15 students. Often, the supervision may be by an external expert. In such cases, the mentor shall jointly guide the student/s without causing embracement to either sides. Depending on the activity taken up by the students, the internship shall be carried out individually or in batches having not more than two or three students.</p> <p>Faculty Mentor, along with the external expert, shall scrupulously evaluate the work of an individual student or students of a batch and maintain the relevant documents for verification by Local Inspection Committee appointed by the University. For allotment of CIE marks, the institutions shall prepare the rubrics for each activity offered by the institution under serial number 06 of Table - 2. The marks shall be allotted by the faculty in consultation with external expert, if any.</p> <p>For all activities conducted by the institution, the attendance of the students shall be maintained by the Faculty and present the same when desired by the Local Inspection Committee appointed by the University.</p>
1.4	<p>Intra and Inter Institutional Internships [Scheduled during the intervening period of II and III semester for students admitted to I year and during the intervening period of III and IV semester for students admitted under lateral entry quota.]</p> <p>While intra activities are within the institution, inter activates shall be between the concerned institution and neighbouring institutions. Intra and Inter activities are the activities that are impetus to learning techniques. It adds to comprehensive growth of mind and associated activities.</p> <p>As the students are at the verge of learning technical aspects and have limited time period of internship, it is preferable to expose students to polygonal activities instead of one type of activity. Therefore, activities completed by the students shall not be one type activity but can be few within the time period of the internship. In this regard, Intra and Inter Institutional activities shall be completed under the supervision of a faculty on self-learning basis.</p> <p>The Faculty have to kindle the latent abilities of the students, encourage, guide,</p>

supervise and shape them to achieve the desired result. Therefore, a learning agenda in the form of specific learning objectives and outcomes shall be prepared prior to the start of the internship.

Whatever the activity/activities that is/are done under Intra and Inter Institutional activities, should ignite the inquisitiveness to learn, enhance the knowledge, thinking ability and imagination, planning, application of mind, execution ability, innovation attitude, listening and understanding, vocabulary, personal expression, public speaking, written communication, oral presentation of the subject matter, acquire leadership qualities and teamwork requirements, responsiveness, ethics, etc.

1.4.1 List of Activities – A Proposal

- 1.** Activities concerned with the works of Indian scholars like Charaka and Susruta, Aryabhata, Bhaskaracharya, Chanakya, Madhava, Patanjali, Panini and Thiruvalluvar, among numerous others
- 2.** Activities such as training with higher Institutions or Soft skill training organized by Training and Placement Cell of the respective institutions.
- 3.** Contribution at incubation/ innovation /entrepreneurship cell of the institute.
- 4.** Participation in conferences/ workshops/ competitions etc.
- 5.** Learning at Departmental Lab/Tinkering Lab/ Institutional workshop.
- 6.** And working for consultancy/ research project with-in the institute.
- 7.** Learning MS Word, Excel, Microsoft equations, MS drawing tools, MS Power point, etc.
- 8.** Coding.
- 9.** Mini projects using commercially available assembled electronic products.
- 10.** Debates, quizzes, and group discussions: On technical topics already studied (both in Kannada and English).
- 11.** Essay competitions: Both in Kannada and English on technical topics already studied.
- 12.** Survey and study of published literature on the assigned topic: Technical paper survey, Preparation of synopsis. Exposure to technical paper publications.
- 13.** Athletics and Sports.
- 14.** Photography.
- 15.** Cultural activities; Drama, Dance,
- 16.** Short film production: Contemporary aspects, Technical aspects etc.
- 17.** Music Competition (Vocal and Instrumental): Classical – Indian and western, Sugamasangeetha (Bhava Geethegalu), Folk songs, film songs etc.
- 18.** Internship in Disaster Management.
- 19.** Solar energy connected activities that help common man.
- 20.** Working with Smart City Administration.
- 21.** Hackathon (it is a design sprint-like event in which computer programmers and others involved in software development, including graphic designers, interface designers, project managers, and others, often including domain experts, collaborate intensively on software projects).
- 22.** Industrial Safety, Fire Safety, Electrical Safety, Chemical Process Safety, Food Safety etc.
- 23.** Internship and project work in Indian Knowledge System related Areas/Topics.

	24. Industrial visits/Small Scale Industries/ Factories/ Cottage Industries/substation visit/short project tour, etc., and submission of report.
1.5	Documents to be submitted by Students for Internship Evaluation
1.5.1	<p>Student's Diary</p> <p>The main purpose of writing daily diary is to cultivate the habit of documenting and to encourage the students to search for details. It develops the students' thought process and reasoning abilities. The students shall record in the daily training diary the day to day account of the observations, impressions, information gathered and suggestions given, if any, and activities carried out. It should contain the sketches and drawings related to the observations made by the students. The daily training diary should be signed after every day or at least twice a week by the Faculty/ in charge of the section (external expert) where the student has been working.</p> <p>Student's Diary should be submitted by the students along with attendance record. It shall be evaluated on the basis of the following criteria:</p> <ul style="list-style-type: none"> (i) Regularity in the maintenance of the diary. (ii) Adequacy and quality of information recorded. (iii) Drawings, sketches and data recorded. (iv) Thought process and recording techniques used. (v) Organization of the information
1.5.2	<p>Internship report</p> <p>After completion of Internship, the student shall prepare, with daily diary as reference, a comprehensive report in consultation with the mentor/s to indicate what he has observed and learnt in the training period along with the internship outcomes. The training report should be signed by the mentor.</p> <p>The Internship report shall be evaluated on the basis of following criteria and/or other relevant criteria pertaining to the activity completed.</p> <ul style="list-style-type: none"> (i) Originality. (ii) Adequacy and purposeful write-up. (iii) Organization, format, drawings, sketches, style, language etc. (iv) Practical applications, relationships with basic theory and concepts taught in the appropriate course. (v) Variety and relevance of learning experience.

1.5.3 Assessment Rubrics for Intra and Inter Institutional Activities

Table – 2 Intra and Inter Institutional Activities and Assessment Rubrics [Ref: AICTE Internship Policy.pdf page 9 and allied] Scheduled during the intervening period of II and III semester(Prescribed Period 03 weeks and Prescribed credits: 01)					
Sl No	Sub Activity Head	Performance/ Appraisal	Assessment Rubrics (Allotted marks decide the letter grade)	Proposed Document as Evidence	Evaluated by
1	Inter/ Intra Institutional Workshop/ Training.	Excellent	80 to 100	(i) Student's Diary and (ii) Internship Report along with the certificate issued from relevant authorised Authority	(i) Institute Faculty (mentor) together with External Expert, if any. (ii) Training and Placement Officer. (iii) Physical Education Officer or the concerned in charge Officer of the Activity
		Good	60 to 79		
		Satisfactory	40 to 59		
		Unsatisfactory and fail	< 39		
2	Working for consultancy/ Research project.	Excellent	80 to 100		
		Good	60 to 79		
		Satisfactory	40 to 59		
		Unsatisfactory and fail	< 39		
3	Festival (Technical / Business / Others) Events.	Excellent	80 to 100		
		Good	60 to 79		
		Satisfactory	40 to 59		
		Unsatisfactory and fail	< 39		
4	Contribution in Incubation/ Innovation/ Entrepreneurship Cell.	Excellent	80 to 100		
		Good	60 to 79		
		Satisfactory	40 to 59		
		Unsatisfactory and fail	< 39		
5	Learning at Departmental Lab/Tinkering Lab/ Institutional workshop.	Excellent	80 to 100		
		Good	60 to 79		
		Satisfactory	40 to 59		
		Unsatisfactory and fail	< 39		
6	Other than the above five activities	Excellent	80 to 100		
		Good	60 to 79		
		Satisfactory	40 to 59		
		Unsatisfactory and fail	< 39		
Note: The total CIE marks shall be the sum of marks allotted to successfully completed activities by the student.					

1.6 Innovation / Entrepreneurship/ Societal Internship [Scheduled during the intervening period of IV and V semester]

During the intervening period of IV and V semesters, students shall be ready for industrial experience. Therefore, they shall choose to undergo Internship involving Innovation / Entrepreneurship/Societal related activities. Students may choose to work on innovation or entrepreneurial activities or both resulting in start-up or undergo internship with industry/ NGO's/ Government organizations/ Micro/ Small/ Medium enterprises to make themselves ready for the industry. In case students want to undergo internship at his/her family business, he /she shall will be permitted provided, a declaration by a parent is submitted directly to the Principal of the institution.

With the consent of the internship guide and Principal of the institution, students shall be allowed to carry out the internship at their hometown (within and outside the state), provided favourable facilities are available.

In case, students wish to take both Innovation, and Entrepreneurship internship, they shall be permitted to take up both. Internship – II period, in such cases, can extend

	marginally by few days, provided it will not interfere with the academic calendar of higher semester.
1.6.1	<p>Innovation</p> <p>Innovation refers to a new or improved product or process or a combination thereof that differs marginally or significantly from the unit's previous product.</p> <p>An innovation center is a place where students are encouraged to implement the innovative ideas formed through imagination, brainstorming sessions, design thinking and associated activities to bring them to reality. It is a place, where creative minds are shaped.</p>
1.6.2	<p>Entrepreneurship</p> <p>Entrepreneurship refers to setting up a new business or businesses, taking on financial risks in the hope of profit.</p> <p>It involves investment to undertake production along with arranging inputs like land, labour, material and capital, introducing new techniques and products, identifying new sources for the enterprise, etc.</p>
1.6.3	<p>Incubation Center</p> <p>An organized unit designed for innovation as well as to accelerate the growth and success of new entrepreneurial companies through mentorship and an array of business support resources and services that could include physical space, capital, coaching, common services, and networking connections.</p>
1.6.4	<p>Startup</p> <p>An entity that develops a business model based on either product innovation or service innovation and makes it scalable, replicable and self-reliant.</p> <p>An entity shall be considered as a Startup</p> <ul style="list-style-type: none"> (i) Up to a period of ten years from the date of incorporation/ registration, if it is incorporated as a private limited company (as defined in the Companies Act, 2013) or registered as a partnership firm (registered under section 59 of the Partnership Act, 1932) or a limited liability partnership (under the Limited Liability Partnership Act, 2008) in India. (ii) Turnover of the entity for any of the financial years since incorporation/ registration has not exceeded one hundred crore rupees. (iii) Entity is working towards innovation, development or improvement of products or processes or services, or if it is a scalable business model with a high potential of employment generation or wealth creation. <p>Provided that an entity formed by splitting up or reconstruction of an existing business shall not be considered a Startup.</p>
1.6.5	<p>Societal (Social) related activities</p> <p>Short term internship at villages, slums or urban areas can be under social internship. The internship will be more fruitful, if students work in teams. The teams can select one or more fields to do their best in the field of agriculture, watershed management, wastelands development, non-conventional energy, low cost housing, sanitation, nutrition and personal hygiene, schemes for skill development, income generation, blood bank, government schemes such as</p>

- (i) Swachh Bharat: Swachh Bharat Mission, Swachh Bharat Abhiyan, or Clean India Mission is a country-wide campaign to eliminate open defecation and improve solid waste management.
- (ii) Accessible India: Accessible India Campaign or Sugamya Bharat Abhiyan is a program to serve the differently-able community of the country.
- (iii) Digital India: A campaign to ensure the Government's services are made available to citizens electronically by improved online infrastructure and by increasing Internet connectivity or making the country digitally empowered in the field of technology.
- (iv) Beti Bachao and Beti Padhao: A campaign of the Government of India that aims to generate awareness and improve the efficiency of welfare services intended for girls in India.
- (v) Environment and Energy Conservation and Education, legal aid, consumer protection and allied field including Indian Red Cross Society, National Cadet Corps, Bharat Scouts and Guides.

Societal activities is one of the NBA graduate attributes (reproduced below) covered under 8.3. Mapping of internship programme outcome with NBA graduate Attributes by AICTE in its AICTE Internship Policy: Guidelines and Procedures. The Societal activities that are under serial number (6) and (7) are reproduced below.

The engineer and society (Serial number (6)): Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal, and cultural issues and the consequent responsibilities relevant to the professional engineering practice.

Environment and Sustainability [Serial number (7)]: Understand the impact of the professional engineering solution in societal and environmental contexts and demonstrate the knowledge of and need for sustainable development. Long term goal under Societal (social work) related activities, particularly at a rural area, results into a rural internship.

As most of the colleges and universities are usually located in the urban areas and long distance between the college campuses and the villages, the visit to villages may become expensive and time consuming. Therefore, it is preferable, especially by colleges located in urban areas, to adopt slum/ economically weaker section areas for short duration social internship to uplift the living conditions.

In view of the foregoing, internship coordinators should encourage students to take up societal internship as far as possible. Also, the internship coordinators must,

- a) Establish good rapport with the government officials and development agencies to seek the help of various government departments and agencies for technical advice and financial assistance and,
- b) Select social internship projects very carefully in consultation with students so that the projects taken can be successfully completed within the stipulated time period. Successful completion of the projects can win appreciation and credit of the community.

1.6.6 Places for Innovation/Entrepreneurial Activities

Students shall carry out Innovation or Entrepreneurial activities or both at the Incubation Center and Entrepreneurship Cell of the parent institution or elsewhere such as ATAL Incubation Centers [A flagship of Atal Innovation Mission (AIM), NITI Aayog for promoting the culture of innovation and entrepreneurship in India], institutes of national importance, public sector units, IT companies, government

organizations, and non-governmental organizations, industries including MSME, etc. Institutes, should deter students to opt for internships at places established for commercial benefits.

1.6.7 Assessment Rubrics for Innovation / entrepreneurship/ Societal Internship Activities

Once the internship begins, the students are required to maintain diary/journal and submit a report every week to the guide. These reports (which can also be submitted by email) should summarize the activities in which the student was involved during the previous week period. At the end of the internship, each student is required to submit the hard copy of consolidated diary/journal and report for evaluation. The report should clearly indicate the learning and achievements of the internship.

Table – 3 Innovation / entrepreneurship/ Societal Internship Activities and Assessment Rubrics [Ref: AICTE Internship Policy.pdf page 9 and allied] Scheduled during the intervening period of IV and V semester(Prescribed Period 04 weeks and Prescribed credits: 03)					
Sub Activity Head	Performance/ Appraisal	Assessment Rubrics	Proposed Document as Evidence	Evaluated by	
(1) Participation in innovationrelated completions for e.g. Hackathons etc.	Excellent	80 to 100	(i) Student's Diary and (ii) Internship Report or the activity report along with Certificate or Declaration fromrelevant Authorised Authority. Wherever, only Certificate is issued, Assessment shallbe at the instituteas per (i) and (ii)to decide the letter grade.	(i) Institute Faculty (mentor) together with External Expert if any. (ii) Training and Placement Officer.	
	Good	60 to 79			
	Satisfactory	40 to 59			
	Unsatisfactory and fail	< 39			
(2) Development of new product/ Business Plan/ registration of start-up	Excellent	80 to 100	Wherever, only Certificate is issued, Assessment shallbe at the instituteas per (i) and (ii)to decide the letter grade.		(i) Institute Faculty (mentor) together with External Expert if any. (ii) Training and Placement Officer.
	Good	60 to 79			
	Satisfactory	40 to 59			
	Unsatisfactory and fail	< 39			
(3) Work experience at family business (Declaration by Parent)	Excellent	80 to 100	Wherever, only Certificate is issued, Assessment shallbe at the instituteas per (i) and (ii)to decide the letter grade.	(i) Institute Faculty (mentor) together with External Expert if any. (ii) Training and Placement Officer.	
	Good	60 to 79			
	Satisfactory	40 to 59			
	Unsatisfactory and fail	< 39			
(4) Internship with Industry/ Govt. / NGO/ PSU/ Any Micro/ Small/Medium Enterprise.	Excellent	80 to 100	Wherever, only Certificate is issued, Assessment shallbe at the instituteas per (i) and (ii)to decide the letter grade.		(i) Institute Faculty (mentor) together with External Expert if any. (ii) Training and Placement Officer.
	Good	60 to 79			
	Satisfactory	40 to 59			
	Unsatisfactory and fail	< 39			
Note: (i) The total CIE marks shall be the sum of marks allotted to successfully completed activities by the student.					

The allotted marks for the different activities decide the letter grade and grade points asindicated in the Table -4.

Table – 4 Letter Grade, Grade Point and Range of Marks Secured								
Letter Grade	O	A+	A	B+	B	C	P	F
		Outstanding	Excellent	Very good	Good	Above average	Average	Pass
Grade Point	10	9	8	7	6	5	4	0
% of Marks Secured	90 – 100	80 – 89	70 – 79	60 – 69	55 – 59	50 – 54	40 – 49	0
Successful completion of non-credit mandatory courses						Satisfactory		
Non – completion of non-credit mandatory courses						Unsatisfactory		
Absence to a course examination shall be indicated						Ab		

1.7 Research Internship /Industry Internship [Scheduled during IV year of B.E./B.Tech and B.Plan Programmes (Duration: 24 weeks)]

	<p>Research Internship /Industry Internship of sufficient duration encourages students early on in their career. Its main goal is to give an opportunity to improve their analytical and technical skills in an international environment. Internship can be in an industry or at an appropriate work place.</p> <p>Research internships and industrial internships have different purposes and come with their set of benefits. A prior experience in any field is always preferred over a fresh start. Therefore, one of them can be selected depending on the interest the students have. Internships pose unexpected challenges and make students to think appropriately, tackle difficulties with ease and act in a scholarly way to get past the hurdles and practical constraints. An internship is always beneficial however good or bad it is.</p> <p>Internships not only enhance one's learning but also identifies him/her as someone who has the commitment to approaching a project and completing it with or without the guidance. The internship learning is an impetus to professional development.</p> <p>While research internship is a step stone to higher studies, an industry internship is a pathway for a placement. Those who are self-motivated and interested in search of new things that are original and unique can choose a research internship. Those who are interested in the real industry- experience and aspire to get a job soon after graduation can choose an industry internship.</p>
1.7.1	<p>Research Internships (Also known as dissertation internship)</p> <p>Research internships are focused research projects that push student's intellectual abilities beyond those driven by the classroom. Often, research internship typically help solve problems which are usually part of major research projects. It involves a short theoretical or experimental research project supervised by a researcher.</p> <p>The research internships, under the advice of a faculty supervisor, can be a one's own selected project or a project on which a Researcher is researching or a new project/real – world project offered by an organization. The research area may be pertaining to single or multidisciplinary fields such as science, technology, engineering, mathematics, management, and business studies. Research internships can be carried out either individually or in teams (not exceeding 3 or 4 students).</p> <p>Research internship opportunities, before graduation, may be in a laboratory of college, a research institute, or a company's R and D department. Apart from fixed working hours of the day of an organization, the researcher can devote sufficient time for other research related activities for an early and successful completion of the Research Internship.</p>
1.7.2	<p>Voluntary Selection of Research Internship Topic</p> <p>Often, students may have opportunity to select a topic for research internship. Those who are opting for a research internship of their choice, should have a clear description of the proposed project and must be prepared to take up coursework (if necessary) and work in laboratories. In such cases, the proposal should have contents as to what is going to be done instead of what has already done by others. The proposer should also demonstrate the scientific insight to the guide.</p>
1.8	<p>Necessary Skills for Research Internship and Industrial Internship</p> <p>For the internships to progress without hurdles and for successful completion, the Researchers should maintain a harmonious relationship with the guide/s, administrators, co – workers and others, and strictly adhere to the rules and</p>

	<p>regulations of the workplace. The other skills required or acquirable during the Internship are,</p> <ol style="list-style-type: none"> 1. Good Communication skills. 2. Attention to detail. 3. Planning and scheduling. 4. Documentation. 5. Critical thinking. 6. Data collection. 7. Data analysis. 8. Ability to maintain quality, safety and/or infection control standards. 9. Appreciating and practicing the ethical issues.
<p>1.9</p>	<p>Responsibilities of an Intern</p> <p>Internes,</p> <ol style="list-style-type: none"> 1. If working with a researcher, shall assist the researcher in an ongoing research project or work collaboratively in designing a new project of mutual interest. 2. Shall engage in literature survey and getting an insight of the research work at the initial stages. 3. Shall compile data, sort, file, implement ideas with minimal guidance and assist write papers. 4. Shall become familiar with a number of tools [meters (Electrical and Electronics, mechanical, computer, etc.)] used in data collection, software's, graphic software, Statistical Package for the Social Sciences (SPSS) software [IBM's statistical software platform], etc. 5. Shall attain skills with Microsoft Word Office, Excel, PowerPoint, Outlook etc. 6. Shall give mid – term oral presentation to a committee for review and feedback. 7. Shall attend discussions, meetings, symposiums, classroom lecturers, etc., to learn new scientific techniques, design experiments, analyse results, and formulate the different hypotheses. 8. Shall learn writing reports and be able to correspond independently. 9. shall manage time effectively. 10. Shall keep a track of the progress of the project. 11. Shall develop integrative thinking.
<p>2.0</p>	<p>Research internship Outcomes</p> <ol style="list-style-type: none"> 1) Generating technical paper/s and publish in refereed journal/s. 2) Possibility of acquiring an intellectual ownership and patent. 3) Build a prototype for an idea on which the research was carried out. 4) File patent/s. 5) Add academic knowledge to the field. 6) Enhanced ability in arranging meetings, presentations, seminars, trainings, etc. 7) Improved conscientiousness and ethics
<p>2.1</p>	<p>Research internships Benefits</p> <ol style="list-style-type: none"> 1) Are great way to pursue an academic career in teaching and research, as a Research Scientist at an Research Organization, Company, Industry sector, etc.

	<ol style="list-style-type: none"> 2) Establish professional networks for future career. 3) Pave way to join a research team and work alongside leading experts in the field. 4) Introduces to new ideas through interaction with like-minded students and others. 5) Develop research skills and knowledge in a specific area of interest. 6) Provide opportunities for growth, achievement, and personal development. 7) Offer an opportunity to publish a research paper that will boost the resume while applying for Post Graduate Studies.
3.0	<p>Industrial Internships</p> <p>The gap between the theoretical knowledge obtained in the classrooms and the practical skills required in the actual workplace scenarios is fast growing. This has put forth varied challenges to graduating students when it comes to job placements. As institutes cannot have a relevant facilities to expose students to real time industrial environment, industrial internship is an appropriate solution.</p> <p>The main objective of the industry internship is to ensure that the intern is exposed to a real job world environment and gain practical experience. Often, it may be a practical exposure to the theory that has been learnt during the academic period. The industry internship helps student's understanding of the analytical concepts and tools, hone their skills in the real-life situations and build confidence in applying the skills learnt.</p>
3.1	<p>Industry Internship Benefits</p> <ol style="list-style-type: none"> i. Offers knowledge and experience. ii. Have ample of opportunities to attend seminars, symposiums, workshops etc. This in turn provides opportunity to establish rapport with professionals and pioneers in their respective fields for further growth. iii. Have wide scope to publish paper/s in journals. iv. Good recommendation letter/s that increase prospectus for further internships, higher studies and placements. v. Helps to acquire team spirit, motivated acts, techniques to resolve conflicts, etc. vi. Helps to develop a lot of leadership skills. vii. Increases the prospect of placement in the same concern, provided the intern has exhibited clear understanding of basics and successfully completed the internship. viii. Fosters to substantiate the issues with facts and figures. <p>For AICTE Internship opportunities refer to https://internship.aicte-india.org/</p>
4.0	<p>Evaluation Procedure of 21INT82 Research Internship and Industry Internship</p> <p>The students pursuing the course 21INT82 shall submit the diary recordings of day to day activities and monthly report to the concerned guide, reporting progress achieved in the course and seeking guidance to proceed with the internship. The interns should provide all the details to the guide, so that he/she can discuss with the employer to make the internship successful.</p> <p>The intern should constantly update the guide about the progress of the internship. The guide should know the interns internship tasks, duties, responsibilities, and potential projects. The evaluation of interns and their internship progress should be</p>

	<p>honest and constructive.</p> <p>The hardcopy or softcopy of the diary maintained by the internes must be signed at least once in a month by the guide.</p> <p>With reference to intern's feedback, the guides should propose changes in campus activities so that they are helpful to the internship.</p> <p>Illustrations, drawings, photos, forms, samples, classified materials, etc., are to be included in the report only after obtaining the consent of the concerned authorities and should indicate the source of all such material. The final report should also be submitted to the place where internship was carried out. The report should avoid a tone that is predominantly cynical or unduly critical of the employer or of those with whom the student intern worked. The content of the report must be of the intern's own work.</p>
<p>4.1</p>	<p>Continuous Internal Evaluation</p> <p>The guides should evaluate the internes using the following as well as any other appropriate methods;</p> <ul style="list-style-type: none"> (i) Punctuality of intern. (ii) Conduct and character. (iii) Tactfulness and politeness with colleagues and the public. (iv) Attitude regarding professionalism. (v) Inquisitiveness and eagerness to learn. (vi) Research attitude. (vii) Problem-solving techniques. (viii) Innovation mind-set. (ix) Time management and meeting the deadline. (x) Receptiveness to feedback and critiques. (xi) Ability to work in a team as a member. (xii) Ability to work without supervision. (xiii) Supervisory skills and leadership skills. (xiv) Judgement and decision-making skills. (xv) Writing skills, oral communication skills, technical communication skills, computer skills, analysis skills and business writing skills. (xvi) Appropriateness of technical skills. (xvii) Familiarization to writing technical papers, standards, codes, etc. (xviii) Reading Behavioural attitude. (xix) Outcomes. (xx) Successes and failures experienced.
<p>4.1.1</p>	<p>Recommendation letter</p> <p>The guide must state whether the intern,</p> <ul style="list-style-type: none"> (i) Exceeded the expectations of the internship. (ii) Met the expectations of the internship. (iii) Did not meet the expectations of the internship. (iv) Did work to a satisfactory level. (v) Did an unsatisfactory internship. <p>At the end, the guide should issue a recommendation letter.</p>

4.1.2 Assessment of CIE marks

- (i) **Single discipline:** The CIE marks shall be awarded by a committee consisting of the Head of the concerned Department and two faculty members of the Department, one of whom shall be the Guide. The CIE marks awarded for the internship, shall be based on the evaluation of the diary, report, presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the internship report shall be the same for all the batch mates.
- (ii) **Interdisciplinary:** The CIE marks awarded for the internship, shall be group wise at the institution level with the participation of all guides of the internship. Participation of external guide/s, if any, is desirable.

The CIE marks awarded for the internship, shall be based on the evaluation of the diary, report, presentation skill and question and answer session in the ratio 50:25:25. The marks awarded for the internship report shall be the same for all the batch mates.

4.1.3 Assessment of SEE marks

- (i) **Single discipline:** Contribution to the internship and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted at the department. Marks shall be awarded based on the evaluation of the diary, report, presentation skill and question and answer session in the ratio 50:25:25.
- (ii) **Interdisciplinary:** Contribution to the internship and the performance of each group member shall be assessed individually in semester end examination (SEE) conducted separately at the departments to which the student/s belong to. Marks shall be awarded based on the evaluation of the diary, report, presentation skill and question and answer session in the ratio 50:25:25.



