GUJARAT TECHNOLOGICAL UNIVERSITY
(Established by Government of Gujarat under Gujarat Act No.:20 of 2007)
ગુજરાત ટેકનોલોજિકલ યુનિવર્સિટી
(ગુજરાત સરકારના ગુજરાત અધિનિયમ ક્રમાંક : ૨૦/૨૦૦૭ દ્વારા સ્થાપિત)
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Gujarat Technological University

Student Induction Program (SIP) Guidelines
for
UG Engineering

w.e.f. Academic Year 2024-25

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Student Induction Program (SIP) Guidelines for UG Engineering

Induction training for 3 weeks is mandatory for first year UG Engineering students. The 3-weeks Student Induction Program will help newly admitted undergraduate students for the new stage in their life by facilitating a smooth transition from their home and school environment into the college and university environment through various discussions and activities before formal classes begin. In line with the thoughts expressed in the NEP 2020, the SIP consists of 9 modules – one on Universal Human Values, one on health, five on Indian Knowledge System (modules 4, 5, 7, 8 and 9) and two on skills (modules 3 and 6). The details of modules are mentioned below -

MODULE	Hours
SIP Module 1: Universal Human Values I (UHV I)	**10**
The purpose is to help develop a holistic perspective about life. A universal self-reflective methodology of teaching is adopted. It opens the space for the student to explore his/her role (value) in all aspects of living – as an individual, as a member of a family, as a part of the society and as a unit in nature. Through this process of self-exploration, students are able to discover the values intrinsic in them.	
SIP Module 2: Physical Health and Related Activities	**24**
This module is intended to help understand the basic principles to remain healthy and fit and practice them through a healthy routine which includes exercise, games, sports etc.	
SIP Module 3: Familiarization of Department/ Branch and Innovation	**2**
This module is for introducing and relating the student to the institution/department/branch; how it plays a role in the development of the society, the state, region, nation and the world at large and how students can participate in it.	
SIP Module 4: Visit to a Local Area	**6**
To relate to the social environment of the educational institution as well as the area in which it is situated through interaction with the people, place, history, and politics.	
SIP Module 5: Lectures by Eminent People	**2**
Listening to the life and times of eminent people from various fields like academics, industry etc. about careers, art, self-management and so on enriches the student's perspective and provides a holistic learning experience.	
SIP Module 6: Proficiency Modules	**4**
This module is to help fill the gaps in basic competency required for further inputs to be absorbed. It includes effort to make students proficient in interpersonal communication and expression as well as awareness about linguistics and thereafter NLP.	

SIP Module 7: Literature / Literary Activities including Indian Knowledge System-I (IKS-I)	16
Through the exposure of local, national and international literature, this module is aimed at helping the student explore by practicing traditional as well as contemporary values and thought.	
SIP Module 8: Creative Practices	**24**
This module is to help develop the clarity of humanistic culture and its creative, joyful expression through practice of art forms like dance, drama, music, painting, pottery, sculpture etc. Local, national and international case studies, particularly Indian Knowledge Systems, Languages, Culture and Values.	
SIP Module 9: Other Co-curricular Activities	**2**
This is a category under which things that are not placed in any of the above may be placed. Some clubs and hobby groups may be made for each of the above categories, so that students may pursue them even after SIP.	
TOTAL	**90**

SIP Calendar for Bachelor of Engineering															
Week	Week 1					Week 2					Week 3				
Session	Mon	Tues	Wed	Thu	Fri	Mon	Tues	Wed	Thu	Fri	Mon	Tues	Wed	Thu	Fri
S- 1	M-3	M-5	M-1	M-1	M-1	M-1	M-1	M-7	M-7	M-7	M-7	M-7	M-7	M-9	M-4
S- 2	M-8	M-8	M-8	M-8	M-8	M-8	M-8	M-8	M-8	M-8	M-8	M-8	M-7	M-7	M-4
S- 3	M-2	M-2	M-2	M-2	M-2	M-2	M-2	M-2	M-2	M-2	M-2	M-2	M-6	M-6	M-4

Note:
- **S-1, S-2 and S-3 are Session 1, 2 and 3 per day.**
- **One session is of two hours.**
- **Mon –Monday, Tues-Tuesday and so on…**
- **M-1, M-2, M-3… are Module 1, 2, 3… and so on…**

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Module 1 - Universal Human Value I (UHV I) (10 Hours)

The course is meticulously crafted to nurture students' holistic perspective on life. Our teaching approach is inherently self-reflective, fostering dialogue between students and faculty. It provides a platform for students to delve into their roles and values across various life domains: as individuals, family members, societal contributors, and integral parts of nature. By championing universal human values, the course fosters self-exploration, enhancing comprehension and coherence regarding the universality of human existence. Through this introspective journey, students unearth their intrinsic values, fostering joy in learning, resilience against peer pressure, and the courage to make informed decisions.

This foundational module, integral to the Student Induction Program (SIP), aims to broaden students' understanding of life's complexities, enriching their holistic perspective. Ultimately, these understanding shapes their values, behavior, and quality of life. The curriculum traverse individual, societal, and ecological dimensions, shedding light on diverse interpersonal relationships, human aspirations, and the symbiotic relationship with nature. Emphasizing the paramount importance of health, it underscores the thread that weaves through all endeavors.

The detailed objectives of the Universal Human Values (UHV) module (UHV-I) are as follows:

- Cultivate a holistic life perspective.
- Sensitize students to life's breadth – from individual to societal and ecological realms.
- Foster self-reflection, confidence, and commitment to informed action.

Methodology:

- Embraces a self-reflective teaching approach, facilitating understanding through introspection and dialogue.
- Encourages students to explore their roles and values across life's spectrum.

Session No.	Topic Title	Aspirations and Issues	Basic Realities (underlying harmony)
1	Welcome and Introductions	Getting to know each other	Self-exploration
2	Aspirations and Concerns	Individual academic, career… Expectations of family…	Fixing one's goals Basic human aspirations Need for a holistic perspective Role of UHV
3 & 4	Self-	Self-confidence, peer	Personality development, self-

Session No.	Topic Title	Aspirations and Issues	Basic Realities (underlying harmony)
	Management	pressure…	improvement… Harmony in the human being
5	Health	Health issues, healthy diet…	Hostel life Harmony of the Self and Body Mental and physical health
6	Relationships	Home sickness, gratitude…	Ragging and interaction Competition and cooperation Peer pressure Harmony in relationship Feelings of trust…
7	Society	Participation in society	Harmony in the society
8	Natural Environment	Participation in nature	Harmony in nature/existence
9	Sum Up	Review role of education Need for a holistic…	Information about UHV-II course, mentor and buddy
10	Self-evaluation	Sharing and feedback	

For comprehensive guidance on content, methodology, and implementation, please consult:

- UHV-I Mentor's Manual for Student Induction Program, Version 2.1 August 2020
  https://fdp-si.aicte-india.org/download/G008_Facilitator(Mentor)Manual_Version2.1.pdf
- Presentations for UHV-I (SIP Teaching Material)
  https://fdp-si.aicte-india.org/SIPTeachMaterialM1.php
- Post UHV-I Feedback and Survey (to be filled by all student participants after they attend UHV-I and submitted to NCC-IP, AICTE /GTU as part of college report)
  https://fdp-si.aicte-india.org/download/Model_Self-Evaluation_&Feedback_for_UHV_I_Module.pdf

Module 2 - Physical Health and Related Activities (24 Hours)

Course Overview:

This course is designed to provide students with a foundational understanding of the key principles necessary for maintaining health and fitness. Students will apply these principles by establishing a healthy routine that incorporates physical & mental exercise, games, and other activities.

Course Objectives:

- Gaining knowledge of fundamental health and fitness principles
- Applying these principles through activities such as exercise, activities and games
- Engaging with health center personnel, sports coaches, faculties, and students

Relationship Building:

This module provides an exceptional opportunity for students and instructors to form meaningful relationships. By interacting as friends and mentors during and around activities, there is a natural exchange of ideas, making it easier to connect on personal and academic levels.

Lifestyle Practices:

Students will learn to integrate healthy lifestyle choices involving diet, daily routines, and physical activities into their lives. This includes practical tasks such as gardening and farming, which connect students with the broader community and deepen their understanding of real-world challenges and efforts.

Activities Included:

- Team-based and non-competitive games that foster social values and integrity.
- Physical exercises that focus on breathe control and body mechanics.
- Productive physical work, such as creating and maintaining kitchen gardens or plantations, which also provides insights into agricultural challenges.
- By engaging in these activities, students internalize a comprehensive approach to health, transforming these practices into lifelong habits. This course not only improves personal health but also prepares students to contribute positively in various community settings, instilling values of integrity, national pride, and cooperation.

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Teaching Methods:

- Health Counselling
- Khel (traditional games)
- Aerobics
- General sports activities
- Yoga

Suggested Modules (2 Hours /Module)

Sr. No.	Module Name	Key Topics Covered	Activities Included
1	Introduction to Health and Fitness Principles	Overview of basic health principles; Setting personal health goals	Discussion and goal-setting exercises
2	Cardio Fitness and Aerobic Exercises	Understanding cardiovascular health; Introduction to aerobic exercises	Guided aerobic exercise session (running, cycling, swimming, etc)
3	Team-Based Sports and Games	Introduction to team-based sports; Teamwork and strategy	Friendly matches in various sports
4	Khel and Traditional Games	Traditional Indian games; Historical significance	Sessions of traditional games
5	Yoga and Breath Control	Basics of yoga and its benefits; Pranayama	Guided yoga and meditation session
6	Diet and Nutrition	Balanced diets and nutritional needs; Role of diet in fitness	Group meal planning activity
7-8	Mental Health and Stress Management	Physical health and mental well-being; Stress management techniques	Mindfulness and relaxation session
9	Role of Sports in Community Building	Social aspects of sports; Inclusivity and teamwork	Team-building games and activities
10	Health Counselling and Goal Setting	One-on-one health counseling; Personal goal setting	Workshop on maintaining healthy habits
11-12	Battery Test	Refer Appendix-A for Detailed Guidelines	

For comprehensive guidance on content, methodology, and implementation, please consult:

- Presentations for Holistic Human Health (SIP Teaching Material)
  https://fdp-si.aicte-india.org/SIPTeachMaterialM2.php

Appendix-A

A battery test for physical activities typically refers to a series of fitness assessments designed to evaluate different aspects of physical fitness. These tests are used to measure various components like strength, endurance, flexibility, and cardiovascular fitness. Here's an overview of how these tests work and what they typically measure:

Purpose:

The main goal is to comprehensively evaluate an individual's fitness level across different physical capabilities.

The test results help in identifying strengths, weaknesses, and overall fitness levels, and provide guidance for training programs.

Components:

Cardiovascular Endurance:

Assessed through activities like running (e.g., the Cooper test, beep test), cycling, or swimming to measure the efficiency of the heart and lungs.

Muscular Strength:

Measured by tests like the bench press or leg press to assess the maximum force a muscle can exert.

Muscular Endurance: Evaluated through exercises like push-ups, sit-ups, or plank tests to see how long muscles can sustain repeated contractions.

Flexibility:

Often measured with tests like the sit-and-reach test, which gauges the flexibility of the lower back and hamstrings.

Speed and Agility:

Assessed through short sprints or agility drills to measure how quickly an individual can change directions and move.

Body Composition:

Body fat percentage, muscle mass, and BMI are sometimes included in the assessment.

Procedure:

Tests are usually conducted in a structured environment, often by fitness professionals or coaches.

Individuals are guided through a series of exercises with standardized instructions to ensure consistent measurement.

Rest periods between tests ensure accurate results by preventing fatigue from influencing performance on subsequent tests.

Results Interpretation:

Scores or results from each test are typically compared against normative data to assess the individual's fitness level.

Results help in creating personalized fitness programs by targeting areas that need improvement.

Repeated testing at intervals can track progress and evaluate the effectiveness of a training regimen.

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Module 3 - Familiarization of Department/ Branch and Innovation (2 Hours)

This module is for introducing and relating the student to the institution/department/branch; how it plays a role in the development of the society, the state, region, nation and the world at large and how students can participate in it.

Sr. No.	Content	Duration
1	Introduction to department, institute and facilities available within and nearby campus (e.g. Faculties, Labs, Major equipment's, clubs, student chapters and nearby research institute and industries).	40 min
2	Role of concern branch of Engineering for the holistic development of the society, nation and world (contribution of branch in Industry sector e.g. Role IC Engineering in automation/agriculture/Process Industry etc. Introduction of prominent alumni from the department and their success journey).	20 min
3	Branch pertaining innovation for sustainable development of society (e.g. E Vehicles for Electrical Engineering, semiconductors for EC Engineering, Nonrenewable for Mechanical Engineering etc.)	30 min
4	Familiarizations with career opportunities (various placement opportunities in government/private sector, scope of entrepreneurship and higher studies).	30 min

Module 4 - Visit to a Local Area (6 Hours)

To relate to the social environment of the educational institution as well as the area in which it is situated through interaction with the people, place, history, politics, provide a brief overview of the day's activities and objectives and assign roles to ensure smooth coordination throughout the day. Below mentioned suggested activities can be followed by the department/ institute located at Ahmedabad city, other institutes can select such places based on their region.

Suggested activities 1: Visit to Gandhi Ashram

- Explore the Gandhi Ashram, also known as Sabarmati Ashram.
- Engage in a guided tour to understand Mahatma Gandhi's philosophy and his contributions to society.
- Reflect on the principles of non-violence, truth, and simplicity.

Suggested activities 2: Heritage Place Visit

- Visit a heritage site such as Adalaj Stepwell or LD Museum.
- Learn about the historical significance and architectural marvels of the site.
- Encourage students to observe and appreciate the cultural heritage of the region.

Suggested activities 3: Visit to Handloom Machineries and Pottery Making

- Experience the traditional craftsmanship of handloom weaving and pottery making.
- Interact with artisans to understand their skills and techniques.
- Participate in a hands-on workshop to create small handicrafts.

Suggested activities 4: Village Visit

- Visit a nearby village to understand rural life and community dynamics.
- Observe various aspects such as agriculture, lifestyle, housing, and social relations.
- Interact with villagers to learn about their daily routines and challenges.

Suggested activities 5: Interaction with Renowned Personalities

- Meet with local personalities who have made significant contributions to society.
- Listen to their experiences and insights on community development and social issues.
- Engage in a Q&A suggested activities to gain valuable knowledge and inspiration.

Concluding remarks:

- Gather for a debriefing suggested activities to reflect on the day's experiences.
- Encourage students to share their thoughts, insights, and newfound perspectives.
- Discuss potential ways to contribute to society and address local challenges.
- Conclude the visit with a group photo and expressions of gratitude.
- Remind students to carry forward the lessons learned and apply them in their lives.
- Provide guidance on further learning opportunities or community engagement initiatives.

By following this schedule, students can gain a holistic understanding of Ahmedabad's cultural heritage, community dynamics, and societal challenges while also fostering empathy, responsibility, and innovative thinking.

Module 5 - Lectures By Eminent People (2 Hours)

Guest lectures by eminent persons from various fields such as academics, industry, sports, business, and technology offer students an exceptional opportunity to broaden their perspectives and gain insight into the practical aspects of life and work. These lectures are not only a source of inspiration but also serve as a valuable platform for students to connect with experienced professionals who have achieved success in their respective areas.

The impact of guest lectures extends far beyond merely listening to accomplished individuals share their stories. Such interactions can profoundly shape students' understanding of the world and equip them with knowledge and skills that are not always covered in traditional classroom settings. Here are several key benefits that students can gain from engaging with guest speakers from different fields:

1. **Inspiration and Motivation**: Eminent persons often share their journey, including the challenges they faced and the strategies they used to overcome them. This can inspire students to pursue their goals with determination and resilience. Hearing about the achievements of these figures can motivate students to strive for excellence in their own endeavours.

2. **Career Guidance**: By learning about the diverse career paths and experiences of guest speakers, students can gain insight into various industries and professions. This exposure can help them make informed decisions about their own career choices and explore opportunities they may not have considered otherwise.

3. **Real-World Insights**: Guest speakers bring a wealth of practical knowledge and experience to the table. Through their lectures, students can gain a deeper understanding of the current trends, challenges, and opportunities in different fields. This real-world perspective can complement theoretical learning and prepare students for the professional world.

4. **Networking Opportunities**: Engaging with guest speakers provides students with the chance to build valuable connections with professionals in their fields of interest. Networking can open doors to internships, mentorships, and potential job opportunities, giving students a head start in their careers.

5. **Exposure to Diverse Perspectives**: Inviting speakers from various backgrounds and fields allows students to encounter a wide range of viewpoints and experiences. This exposure can broaden their horizons and encourage them to think critically and creatively about different topics.

6. **Development of Communication Skills**: Guest lectures offer students the chance to interact with professionals, ask questions, and engage in discussions. This interaction helps students improve their communication skills and gain confidence in expressing their thoughts and ideas.

7. **Learning from Experienced Mentors**: Guest speakers often share valuable advice and insights from their own experiences. Students can benefit from these lessons and apply them to their personal and professional development.

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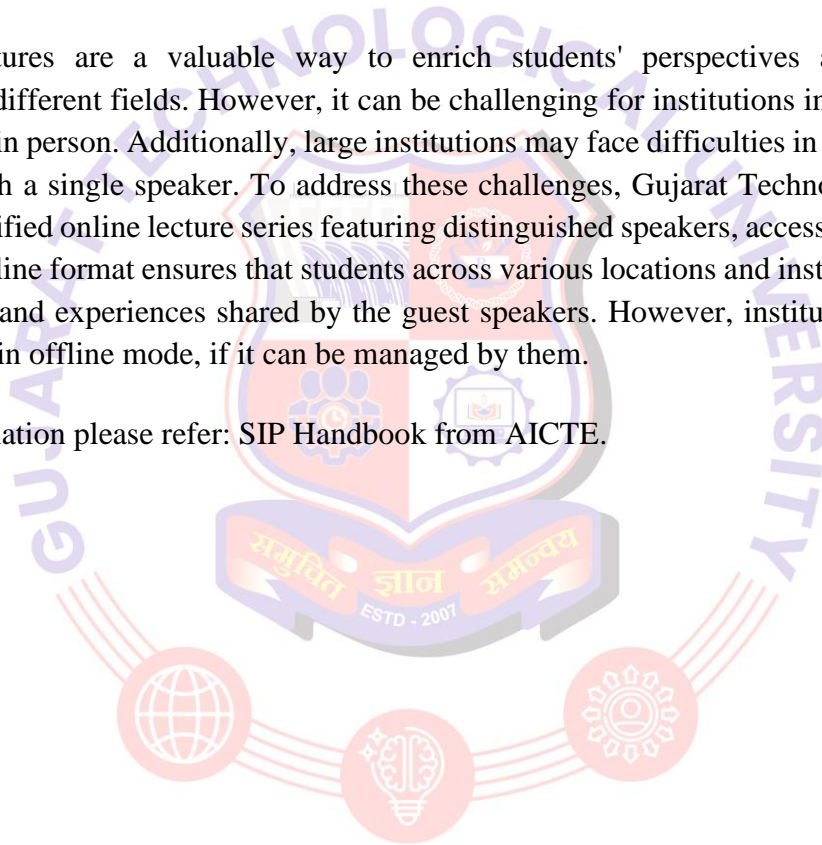Accredited with A+ Grade by NAAC

To maximize the benefits of guest lectures, it is important to invite a diverse set of speakers from different fields. This diversity ensures that students are exposed to a wide range of topics and perspectives, enriching their overall learning experience. Additionally, the interactive nature of guest lectures allows students to engage with the speakers and ask questions, fostering a dynamic learning environment.

In conclusion, guest lectures by eminent persons from various fields play a crucial role in enhancing students' education and personal growth. By providing inspiration, guidance, and real-world insights, these lectures contribute to a well-rounded learning experience that prepares students for success in their future endeavours.

Note: Guest lectures are a valuable way to enrich students' perspectives and broaden their understanding of different fields. However, it can be challenging for institutions in rural areas to host eminent speakers in person. Additionally, large institutions may face difficulties in organizing lectures for all classes with a single speaker. To address these challenges, Gujarat Technological University will facilitate a unified online lecture series featuring distinguished speakers, accessible to all affiliated institutes. This online format ensures that students across various locations and institutions can benefit from the insights and experiences shared by the guest speakers. However, institutes are free to host eminent speakers in offline mode, if it can be managed by them.

For further information please refer: SIP Handbook from AICTE.

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Module 6- Proficiency Module (4 Hours)

Objective:

This module aims to fill the gaps in basic competencies required for further learning. It focuses on developing proficiency in English Language, Gujarati/Hindi Languages, Communication Skills and relevant Computer Skills. The module is designed to cater to students of diverse backgrounds and help them adapt to the medium of instruction (English) and enhance their overall communication abilities.

Expected Outcome:

Equip the students to develop competencies required in further advancement of their UG studies.

Methodology:

1. Reading of printed materials like Newspaper, short stories, books, articles, drama, periodicals, etc.
2. Use of Web tools
3. Use a variety of methods to engage learning
4. Use of Audio/ Visual Tools
5. Build in work groups
6. Expert Sessions

Session 1: English Proficiency (1 hour)

- Introduction to the importance of English proficiency in academic and professional settings.
- Interactive activities to encourage speaking in English without fear of making mistakes.
- Group discussions on various topics to improve fluency and confidence.
- Watching short videos or movies in English followed by discussions.
- Tips and guidelines for self-improvement in English (e.g., reading newspapers, writing, conversing with friends in English).

or

Session 1: Gujarati / Hindi Proficiency (1 hour)

- Basic introduction to the Gujarati/ Hindi language for students not familiar with it.
- Common phrases and expressions used in Gujarati/Hindi.
- Practice sessions for basic Gujarati/ Hindi conversations.
- Introduction to Indian epics, dramas, and literature in Gujarati/Hindi.
- Watching short videos or movies in Gujarati/ Hindi followed by discussions.
- Tips and guidelines for self-improvement in Gujarati/ Hindi (e.g., reading newspapers, writing, conversing with friends in Gujarati/ Hindi).

Session 2: Communication Skills (1 hour)

- Importance of effective communication in personal and professional life.
- Active listening exercises.

13

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- Role-playing scenarios to practice different communication skills (e.g., assertiveness, empathy).
- Tips for improving non-verbal communication (e.g., body language, eye contact).

Session 3: Computer Skills (1 hours)
- Basic introduction to computers for preparation of presentation, word documents etc.
- Hands-on practice with common software applications (e.g., word documents, spreadsheets, PowerPoint presentation).
- Accessing the internet for learning pronunciation, synonyms and antonyms etc.
- Introduction to coding and digital literacy.
- Introduction to plagiarism software
- Use of NLP tools

Session 4: Expert session (1 hour)
- Introductory session on IELTS and TOEFL
- Effective Speaking Skills, Voice Quality and Purposeful writing
- Body Language and Listening skills
- Hands-on practice with NLP tools

Note:
- The sessions should be interactive and engaging, encouraging active participation from all students.
- Provide a supportive environment where students feel comfortable making mistakes and learning from them.
- Offer additional resources and support for students who need extra help.
- Encourage students to continue practicing and improving their skills beyond the induction module.

Resources:

1. English (or other language) Newspaper, articles, story books, etc.
2. Audio and Video clips
3. Online Vocabulary

Module 7 - Indian Knowledge System (16 Hours)

(भारतीय ज्ञान प्रणाली)

INDIAN civilization has always attached great value to knowledge. In Bhagvad Gita, Shree Krishna says – "न हि ज्ञानेन सदृशं पवित्रमिह विद्यते।" - Indeed, there is nothing purifying here comparable to Knowledge.

The Indian Knowledge System talks about two types of knowledge (विध्या), one अपराविध्या (worldly knowledge) and पराविध्या/ब्रह्मविध्या (knowledge which liberate). However, it is common perception that the body of knowledge represented in our Indian Scriptures are only related to some ritual practices. On the contrary, there is an amazingly large body of intellectual texts, the world's largest collection of manuscripts, its attested tradition of texts, thinkers and schools in so many domains of knowledge.

It is an interesting and fascinating aspect of knowledge in India that it prevails in diverse ways and is expressed at varied levels. In many areas such as Medicine, Mathematics, Science and Technology, Psychology, Philosophy, Agriculture, Grammar, Language, Dance, Music and Astrology, to name just a few, there is wide and extensive knowledge both at the level of the classical texts and the folk traditions. Quite commonly, they are referred to as "Shastra" and "Lok Parampara" respectively.

This module is aimed at introducing this great tradition of knowledge to the engineering students. This module will introduce scientific and technological aspects of the great Indian Knowledge System.

The Learning Objectives of this module is as follows:

After completing this module students will be able to discuss about –

1. Various texts and traditions of Indian Knowledge System
2. Scientific aspects of Sanskrit and its Grammar
3. Indian contribution in mathematics, science, technology, philosophy, health and psychology.

This module is planned in 16 hours of teaching – learning activities as below -

Session No.	Topic Title	Hours
1	Introduction to IKS	1
2	The Vedic Corpus	1
3	Indian Philosophical System	1

Session No.	Topic Title	Hours
4	Scientific Foundation in Linguistics (Sanskrit)	1
5	Computational Concept in Panini	1
6	Indian Number System	1
7	Ancient Indian units of measurements	1
8	Indian Mathematics	1
9	Indian Mathematics	1
10	Metals and Metalworking	1
11	Metals and Metalworking	1
12	Various other applications	1
13	Various other applications	1
14	Town planning and architecture	1
15	Health, Wellness and Psychology	1
16	Health, Wellness and Psychology	1

Reference study materials:

1. Introduction to Indian Knowledge System: Concepts and Applications by B. Mahadevan, Vinayak Rajat Bhat, and Nagendra Pavana R.N.; Publisher: Prentice Hall India
2. Set of five books published by School of IKS (ધરોહર), GTU.

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Module 8 - Creative Practices (24 Hours)

Course Overview:

This module is designed to enhance an appreciation for humanistic culture through the lens of engineering, encouraging students to explore and integrate creative expressions with technical disciplines. Students can have the opportunity to select a skill from a variety of domains that complement their engineering studies. Additionally, literary activities such as reading, writing, and debating are included to foster critical thinking and articulate expression, essential skills for any engineer.

Course Objectives:

The program's goals are to establish a dynamic and collaborative environment that enhances social interactions and skill development, while also fostering an appreciation for creative arts as a complementary aspect to engineering education. Participants will engage in various activities including group projects and competitions. These will culminate in a showcase where students can display the innovative skills they have acquired. Engineering societies and clubs may assist in organizing these activities, providing a bridge between technical and creative disciplines.

Furthermore, professionals from fields that intersect with both the arts and engineering, such as industrial design, sound engineering, and architectural design, may be invited to lead workshops. These sessions will provide students with the opportunity to develop creative and practical solutions to challenges that are relevant both in artistic and engineering contexts.

Throughout the program, students will commit daily time to explore and integrate artistic disciplines into their engineering projects. While a central theme—such as sustainability, innovation, the history of engineering, or technology's impact on society—may guide these activities, participation in this thematic exploration is not mandatory. This approach is designed to deepen students' engagement, encouraging them to apply artistic expressions such as design, modelling, or conceptual installations to enhance their understanding of engineering principles. This thematic involvement is intended not only to enrich students' technical and creative skills but also to heighten their social and ethical awareness as future engineers.

Activities Included:

Recognize the Role of Creativity in Engineering: Students will identify and understand how creative thinking contributes to technological innovation and problem-solving in engineering contexts.

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Develop Creative Problem-Solving Skills: Students will learn to apply creative problem-solving techniques to tackle complex engineering problems, integrating unconventional solutions and innovative approaches.

Enhance Observational Skills: Students will improve their ability to observe and analyze everyday objects and systems, fostering the ability to see potential improvements and innovations.

Practice Ideation Techniques: Students will practice various ideation methods such as brainstorming, mind mapping, and SCAMPER to generate new ideas and approaches for engineering projects.

Experiment with Design Thinking: Students will engage in design thinking processes to empathize with users, define problems, ideate solutions, prototype, and test, emphasizing user-centered design in engineering.

Cultivate Interdisciplinary Thinking: Students will explore how concepts from other disciplines can be integrated into engineering solutions, encouraging a broader perspective and versatile problem-solving skills.

Apply Creative Tools and Technologies: Students will learn to use modern tools and technologies that facilitate creative design and engineering, such as CAD software, 3D printing, and digital simulation tools.

Develop Reflective Practices: Students will engage in reflective practices to critique and evaluate their creative processes and outcomes, leading to continuous improvement in their creative endeavours.

Encourage Collaboration and Teamwork: Students will participate in group projects that require creative collaboration, learning how diverse perspectives can contribute to innovative solutions.

Promote the Presentation of Creative Work: Students will develop skills in effectively communicating their innovative ideas and creative projects to diverse audiences, including peers, instructors, and industry professionals.

Professional Development: Hosting exhibitions and performances where industry professionals are invited can provide networking opportunities and expose students to potential career paths that combine engineering and the arts.

Workshops and Masterclasses: Organize workshops led by professionals in different fields such as painting, music, dance, and drama. These can provide hands-on experiences and deepen students' skills.

Suggested Modules (2 Hours /Module)

Sr. No.	Module Name	Key Topics Covered	Activities Included
1	Introduction to Creative Arts in Engineering	Basics of creativity in engineering with arts focus	Discussion on the intersection of arts and engineering
2	Creative Writing for Engineers	Basics of creative writing; Writing for technical audiences	Short writing exercises; peer feedback
3	Visual Arts and Design Thinking	Design thinking basics; Drawing and visual design	Guided drawing and visual design exercises
4	Observation and Creative Inspiration	Observational skills; Finding inspiration in daily life	Sketching and journaling activities
5	Basics of Collaboration through Theatre	Importance of collaboration; Acting basics	Improv games and collaborative acting exercises
6	Storytelling through Technology	Digital storytelling; Simple digital media tools	Creating digital stories using basic media tools
7	Art and Engineering Concepts	Exploring how art intersects with engineering	Group discussions and practical activities exploring artistic concepts
8	Reflective Practices through Literature	Importance of self-reflection; Literature analysis	Short readings and reflective journaling
9	Team Projects in Creative Arts and Engineering	Planning and executing interdisciplinary projects	Group projects combining art and engineering
10	Basic Presentation Skills	Introduction to presenting creative work	Group presentations and feedback sessions
11	Career Paths in Creative Arts and Engineering	Overview of careers blending arts and engineering	Guest talks from professionals in creative fields
12	Beginner Workshops in Creative Skills	Guided skill-building in arts and engineering	Hands-on workshops with creative professionals

For comprehensive guidance on content, methodology, and implementation, please consult:
Presentations for creative practices: https://fdp-si.aicte-india.org/SIPTeachMaterialM8.php

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Module 9 - Extra Curricular Activities (2 Hours)

This is a category under which things that are not placed in any of the above may be placed. This has suggestions for sessions or activities that can be conducted like some clubs and hobby groups may be made for each of the above categories, so that students may pursue them even after SIP.

Anti-Ragging Briefing: With the advent of college years for students, fear of ragging creeps inside them. With a picture of ragging borrowed from the cinema in their minds, they enter the premises, and hence it becomes essential to introduce them to the rules of the institution against ragging. Many students are away from their homes for the first time, and it is the responsibility of the institute to make them feel welcomed and safe within the boundaries of the institute Both formal and informal sessions can be organized informing the entrants about the anti-ragging policies of the institution, along with answering some principal questions like, "What comes under ragging?", "Whom to approach if you witness ragging?", etc.

Wellness Sessions: In this ever-growing competitive world, statistics of mental issues like depression and anxiety are overwhelming, and yet people choose to overlook these issues. "Mental awareness/wellness sessions" provide an answer to this ignorance. The institute can have tie-ups with mental wellness organizations that, in-return, can send in their professionals to deliver lectures on mental health and its importance. Informal sessions by specialists can be organized involving fun yet, affective activities (self-control activities, music therapy activities, discussion activities, or relaxation activities like games to release stress and have a bonding with the peers) to maintain a healthy state of mind. Because of the stigma around mental health, the information of the student approaching for help shall be confidential, and a team of students themselves can be set up to hear out issues of their juniors and help them out professionally.

Informal Interactions: A fresher, oblivious to the college culture and environment, requires informal interactions with seniors to clear their queries regarding the workload of the branches, different clubs, excelling in exams, opportunities provided by the institute to pursue their interests, and maybe even professors. Seniors, accompanied by faculty members, should visit the hostels of freshers post dinner to make them feel welcomed and comfortable. Seniors accordingly may choose to sit in the corridors or grounds to share their experiences of their freshmen year and to answer the questions raised by the freshers. Faculties shall be roaming through the hostels to ensure no cases ragging take place. Occasionally refreshments could be taken by the faculties to bond and interact with the freshers. The faculty members shall make sure that all the seniors are out of the fresher's hostels at the end of these sessions.

Club/Council/Committee Briefings: Clubs/Council/Committee are a vital part of a college's ecosystem and it is thus imperative that students are well briefed regarding them. The details of the briefing will vary from college to college, but the brief outline has been described here, along with the reasons that

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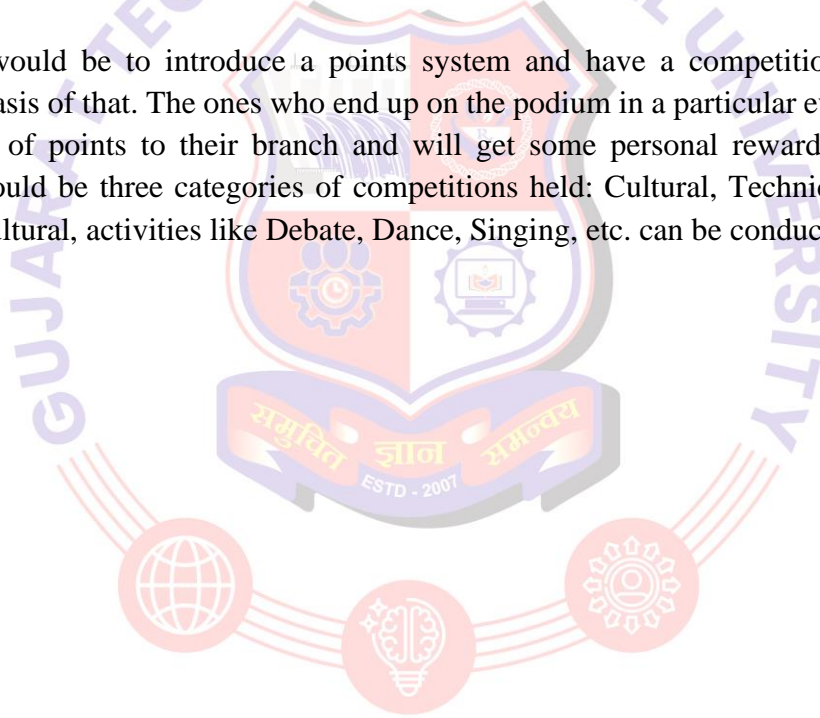(Established by Government of Gujarat under Gujarat Act No.:20 of 2007)
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make such a briefing essential. It would be advisable to have the Secretaries/Presidents and other position holders draft a welcome address for the new entrants. This should serve as an advertisement for the club's activities, scope and culture. A member of the Debate Club, for example, should go through an analysis of why learning how to debate is a useful/interesting skill and how the club members would help the new entrant learn and develop these skills. Similarly, a member of the Design Club could have the club members showcase their skills through a quick extempore portrait creation. This would be quite engaging and entertaining for the spectators. If there are any committees which are not student-run, the people in charge could take it upon themselves to organize this presentation for the students. The main objective would be to ultimately ensure that every student goes into the academic year with a very strong basic idea of what to expect from a club and whom he or she could contact in order to have a better idea of what to do. Intra Fresher Competitions: Care must be taken to have as relaxed a schedule as possible so that any student can freely participate in as many events as possible without having to pick and choose between different interests.

One suggestion would be to introduce a points system and have a competition among different branches on the basis of that. The ones who end up on the podium in a particular event will contribute a certain number of points to their branch and will get some personal rewards as well. Broadly speaking, there could be three categories of competitions held: Cultural, Technical and Sports. For example under Cultural, activities like Debate, Dance, Singing, etc. can be conducted.

A. <u>General Regulations:</u>

1. Every student has to maintain a daily diary. Format of the diary is given.
2. After completion of the Induction program student has to prepare a report based on activities performed during the Induction program. Diary will be attached as Appendix in Report.
3. 75% Attendance is required during the Induction Program.
4. This program will be a noncredit subject but it will reflect in the 1st Semester Marksheet as PASS or FAIL.
5. The Institute should appoint a mentor for a group of 20 to 30 students. Mentors can take help from senior students.
6. If a student gets an admission transfer in another college during the Induction Program, the diary will be continued from previous college to new college.
7. If a student gets admission in the middle of the Induction Program or student gets admission after the Induction Program, it is the responsibility of the institute to fulfill the criteria of the Induction Program.
8. If a student fails in the Induction program, the student has to clear the same during subsequent Semester.

B. <u>Evaluation Pattern:</u>

1. The Induction Program is Mandatory course for each branch of UG Engineering.
2. It is mandatory for each student to clear the Induction Program with PASS grade.
3. Grades for the Induction Program are either PASS or FAIL and have no credits. Evaluation for the Induction Program is based on the Induction Program Report prepared by a student from the student diary and the student will be declared PASS or FAIL.
4. Students have to submit the Induction Program Report at the end of first semester duly approved by Mentor and HOD.
5. Evaluation of the Induction Program will be done along with the first Semester Term-Work Submission.
6. The evaluation is carried out by the Internal Examiner from the institute itself. The entry on the GTU portal will be PASS or FAIL, not marks.
7. The students who will FAIL have to reappear again after every 6 months as a remedial exam.

C. Guidelines for Program Report:

1. Report should have a minimum of 20 pages.
2. Report must have One Photograph per Activity.
3. Report consists of Certificate, Index and Diary as Appendix.
4. Report should be duly signed by Mentor and HOD.
5. Index will have following sequence:

Sr. No.	Name of Modules
Module 1	Universal Human Values I (UHV I)
Module 2	Physical Health and Related Activities
Module 3	Familiarization of Department/ Branch and Innovation
Module 4	Visit to a Local Area
Module 5	Lectures by Eminent People
Module 6	Proficiency Modules
Module 7	Literature / Literary Activities including Indian Knowledge System-I (IKS-I)
Module 8	Creative Practices
Module 9	Other Co-curricular Activities

D. Format of Diary

Format of Diary is attached as Annexure- 01.