



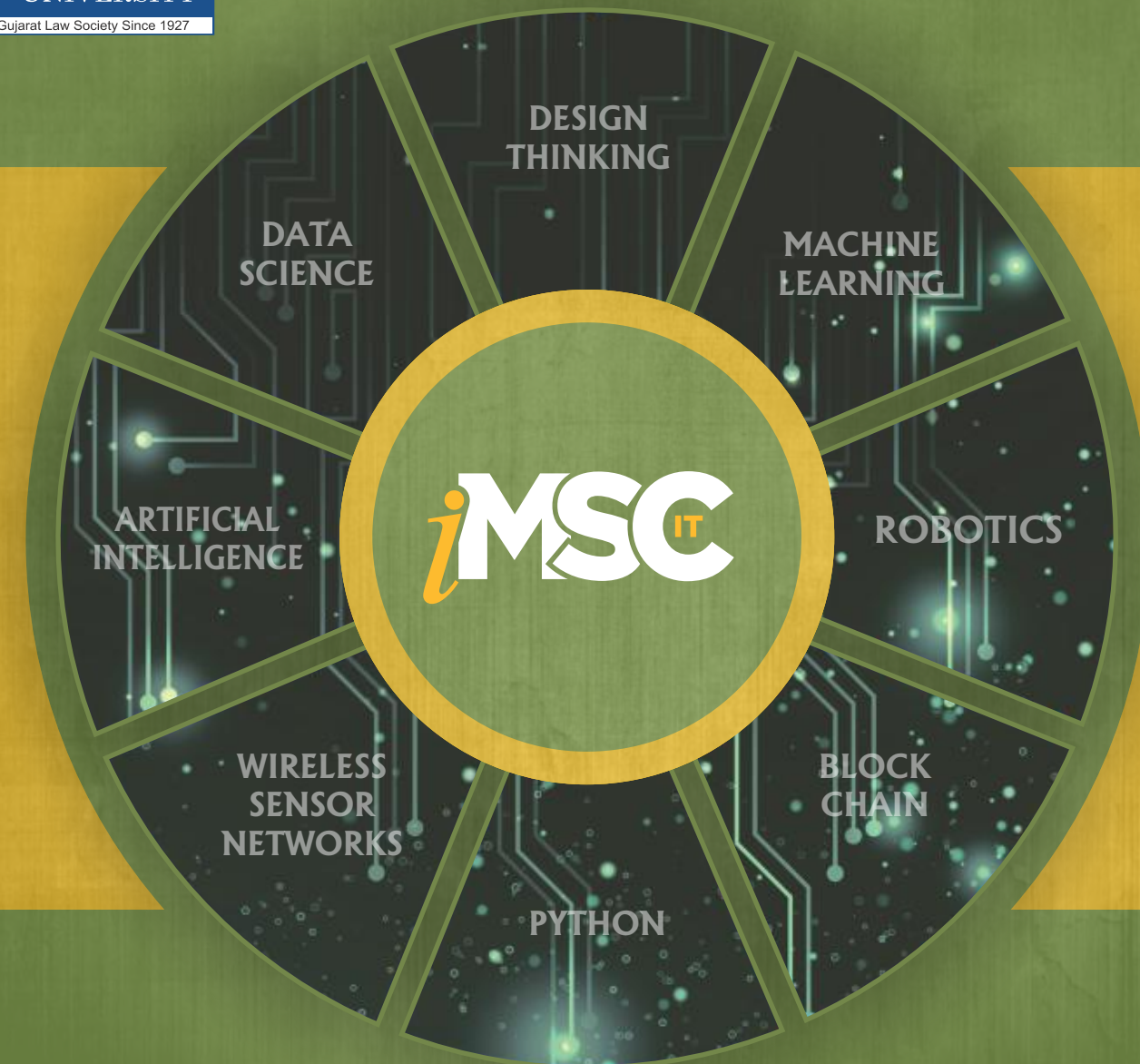
Faculty of Computer Applications & Information Technology
Integrated MSc(IT) Programme



GLS University Campus, Ellisbridge, Ahmedabad – 380006

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🌐 www.glsufcait.org/imscit, www.glsuniversity.ac.in/i-msc-it.html



Faculty of Computer Applications &
Information Technology

Pioneer in Computer Science Education

Five Year Programme

**Integrated
Master of Science**

(Information Technology)



GLS UNIVERSITY

GLS University is a statutory state private university established by an Act of Gujarat State Assembly. GLS University is set up with the vision to benchmark global standards of education and create path breaking programmes in the areas of strategic importance not only to the country but also across the world. The university has initiated various innovative programmes in diverse areas of Management, Information Technology, Communications, Social Sciences, Commerce. Besides the existing programmes of B.C.A., M.C.A, MSc(IT), B.B.A., M.B.A., B.Com., M.Com etc. offered by the various institutes under the umbrella of GLS university, the university is geared up to introduce pioneering undergraduate and post graduate programmes in the various disciplines. With a view to provide impetus to research, the university intends to have research focus in its undergraduate and post graduate programmes. Moreover, exclusive research degrees like M.Phil. and Ph. D. have also been introduced in various disciplines.

GLS University, with its rich legacy of Gujarat Law Society, is now poised to become Gujarat's first globally relevant university, delivering quality education at affordable costs.

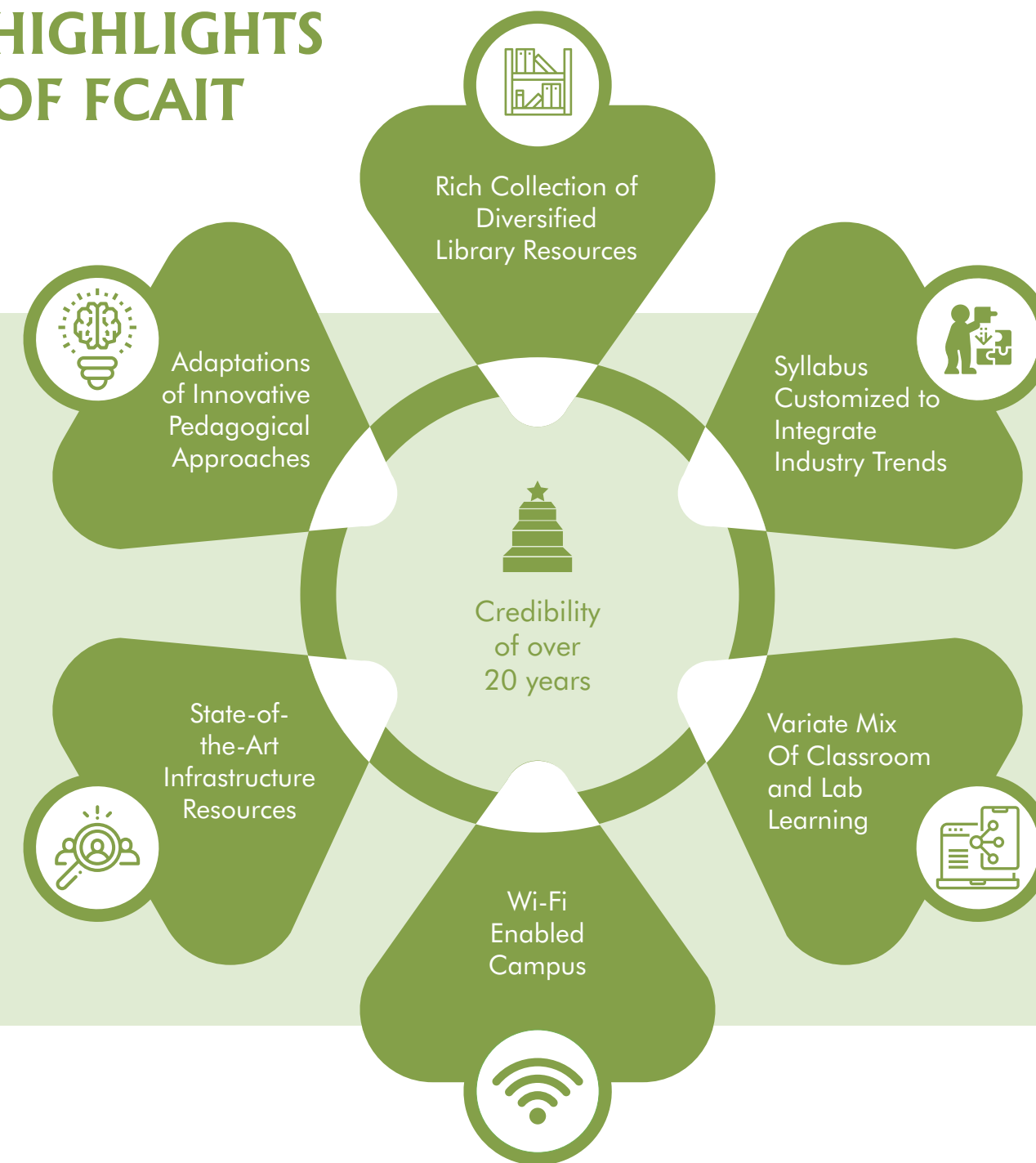


FACULTY OF COMPUTER APPLICATIONS & INFORMATION TECHNOLOGY (FCAIT)

FCAIT offers various technology oriented undergraduate and postgraduate courses with a fusion of technology, innovation and creativity. The institute excels in providing concrete education in the fundamental and advanced concepts of technology and computer science. The institute provides conducive environment for students with different aptitudes and different educational experiences to benefit intellectually, academically and vocationally.

The institute aims at integrating various cutting-edge Open Source technologies that provide a wide scope for students to learn, engage & transform. The institute prepares graduates who are able to demonstrate intelligence, ingenuity and innovation in all areas of endeavors. The institute strives to impart quality education through Student Engagement approaches such as effectual faculty-student interaction, engaging institute-industry interface, balanced mix of conceptual learning and practical demonstration, continuous evaluation, project based learning and many more.

HIGHLIGHTS OF FCAIT



INTEGRATED MSC(IT) PROGRAMME

iMSc (IT) is a five year integrated course concentrated around the Information Technology domain. Today's era is revolving around technology. The course is the perfect choice for students interested in the field of information technology and converting this passion into a promising career.

The syllabus explores various contemporary subjects like Artificial Intelligence, Robotics, Big Data Analytics, Python, Machine Learning, Microprocessors & Assembly Language, Digital Logic & Circuits, Embedded Systems, Digital Image Processing, Emerging Technologies as well as traditional subjects like Multimedia Systems, Software Engineering, Java, Data Communications, C, C++, Networking, Web Designing and many more.

On the successful completion of Integrated MSc(IT) Programme, the graduate shall be able to procure a reputed and highly rewarding career as IT Consultant, Cloud Architect, Computer Forensic Investigator, Mobile Application Developer, Web Developer, Software Engineer, Network Administrator, Data Modeler, Business Analyst, Computer & Information Research Scientist and many more.



PROFESSIONAL ENRICHMENT

Providing with Comprehensive Grounding in the foundation of Computer Science & Information Technology

Developing Problem Solving and Decision Making Skills

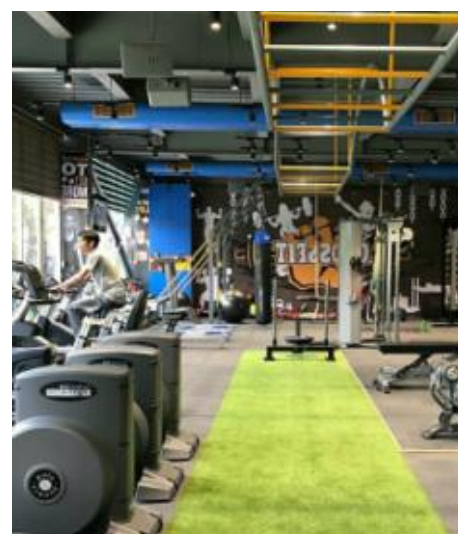
Nurturing Knowledge, Key Skills and the Capacity for Learning

Enhancing the Scientific Aptitude of Students

Experimental Learning Through Lectures, Practical Lab Exercises, Case Studies, Work Integrated Assignments and Activities



INFRASTRUCTURAL RESOURCES



THE CURRICULUM

Core Courses (CCs)

Subjects
which cover the
foundations of
Computer Science &
Information
Technology

Core Elective Courses (CECs)

Subjects
offered
for specialization
through in-depth
knowledge in
advanced
IT areas

Elective Courses (ECs)

Subjects
offering students
the chance to
explore an area of
their particular
interest

Skill Enhancement Courses (SECs)

Subjects to
engrave practical
implementation
aptitude

Ability Enhancement Courses (AECs)

Subjects
focusing on
developing analytical
and communicative
skills

COURSE STRUCTURE

1

Core Courses

- Introduction to Information Technology
- Problem Solving Through Programming
- Mathematics For Computer Science – I
- Web Designing Using HTML5

Skill Enhancement Courses

- Practicals on C
- Practicals on Web Designing Using HTML 5
- Publishing & Multimedia Tools

Ability Enhancement Course Elective Course

2

Core Courses

- Fundamentals of Computer Organization
- Advance C
- Mathematics for Computer Science – II
- Database Systems – I

Skill Enhancement Courses

- Practicals on Advance C
- Practicals on Database Systems – I
- Practicals on DHTML

Ability Enhancement Course Elective Course

3

Core Courses

- Introduction to Object Oriented Programming
- Fundamentals of Operating System
- Introduction to XML
- Data Structures

Skill Enhancement Courses

- Practicals on Object Oriented Programming
- Practicals on XML
- Practicals on Data Structures

Ability Enhancement Course Elective Course

4

Core Courses

- Advanced Object Oriented Programming
- Core Java
- Microprocessor & Assembly Language
- Statistical Computing

Skill Enhancement Courses

- Practicals on Advanced Object Oriented Programming
- Practicals on Core Java
- Practicals on Operating System

Ability Enhancement Course Core Elective Course

5

Core Courses

- Introduction to Data Communication
- System Analysis & Design
- Multimedia Systems
- Programming with PHP

Skill Enhancement Courses

- Practicals on Multimedia
- Practicals on PHP
- Database Systems - II

Ability Enhancement Course Elective Course

6

Core Courses

- Introduction to Python
- Artificial Intelligence
- Software Engineering
- Information Security

Skill Enhancement Courses

- Practicals on Python
- Dissertation / Mini Project

Ability Enhancement Course Core Elective Course

7

- Enterprise Computing with Cloud
- Design and Analysis of Algorithms
- Distributed Operating System
- Data Warehousing and Data Mining
- Cryptography and Network Security
- Web Programming using Python
- Web Programming using Java

8

- Web Services
- Advanced Networking
- High Performance Computing using Python
- Data Science
- Network Programming
- Machine Learning with Python
- Elective I
- Summer Assignment

Electives

- App Development using Android
- App Development using iOS
- App Development using Angular

9

- Fundamentals Of Blockchain
- AI And Robotics
- Wireless Sensor Networks
- Big Data Analytics
- Linux Internals
- Programming Of Linux Internals
- Programming With NoSQL

10

- Opportunities in Emerging Technologies
- Industry Internship

Core Elective Courses

- Machine Learning
- Parallel Processing
- Computer Graphics
- Operations Research
- Digital Image Processing
- System Software

Ability Enhancement Courses

- Design Thinking
- Foreign Language – I
- Embedded Systems – I
- Embedded Systems - II
- Website Frameworks – I
- Website Frameworks – II
- Communication Skills
- Introduction to Electronics
- Digital Logic and Circuits
- Numerical Methods

Elective Course

- Renowned Scientists of the World
- IT in Healthcare
- Tools & Techniques For Digital Marketing
- Soft Skills Development
- Green Computing
- Foreign Language – II
- Indian Constitution
- Gandhian Movement
- Environmental Studies
- History Of Gujarat & Its Culture
- IT Leaders

ELIGIBILITY CRITERIA

The applicant must have passed the Gujarat Higher Secondary Education Board (GHSEB) / Central Board of Secondary Examination (CBSE) / Indian Council of Secondary Examination (ICSE) or its equivalent under the 10 + 2 pattern in General or Science stream during the current year with the following subjects:

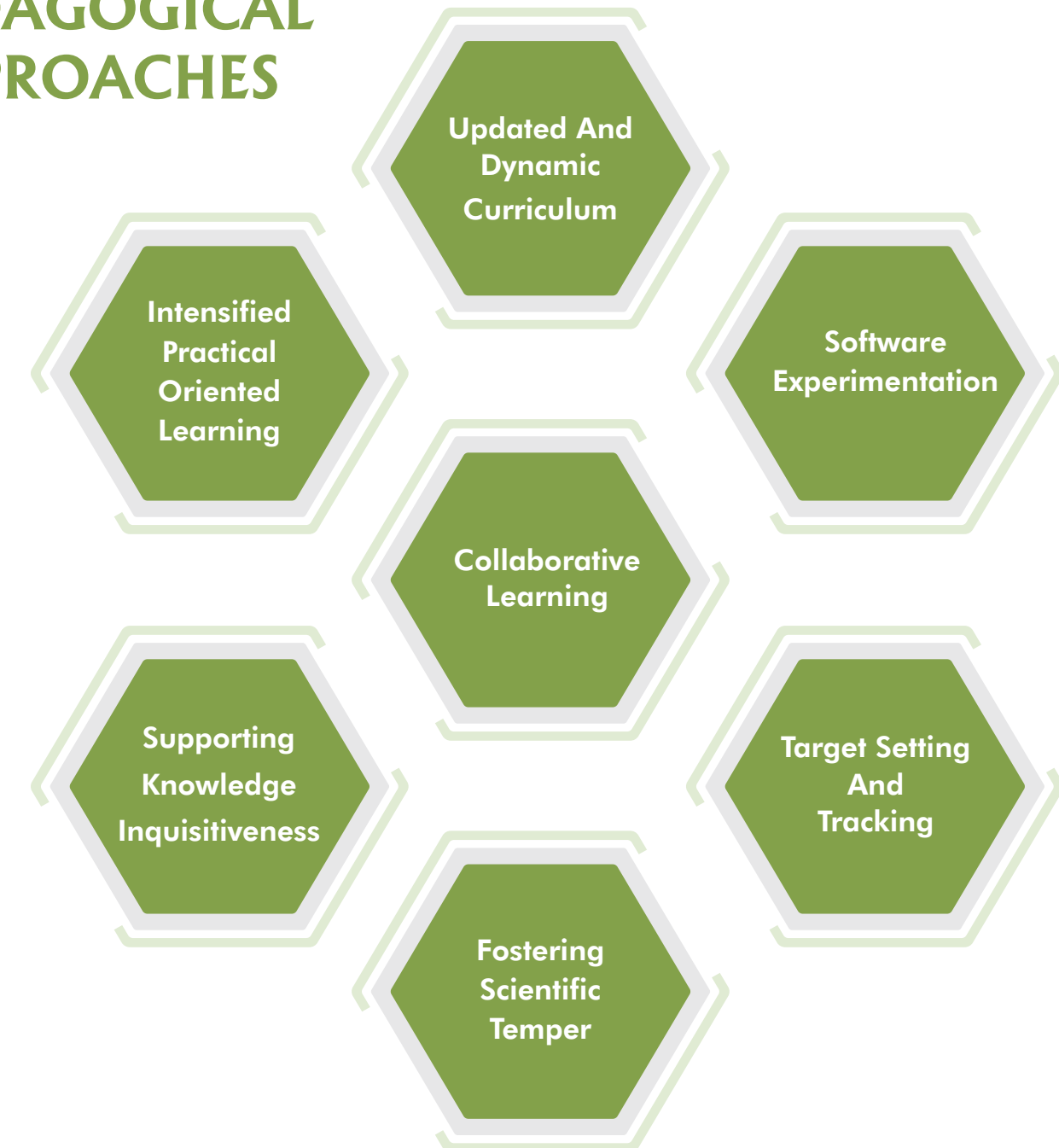
- (1) English
- (2) Any one of the following subjects:
 - Mathematics
 - Statistics
 - Accounting and Book Keeping
 - Physics
 - Business Mathematics
 - Accountancy
 - Computer

The candidate must have obtained the following minimum percentage of aggregate marks (i.e., total marks obtained divided by the maximum total marks admissible, including marks of all subjects, theory and practical):

- For Open category candidates : **45%**
- For Reserved category candidates : **40%**



PEDAGOGICAL APPROACHES





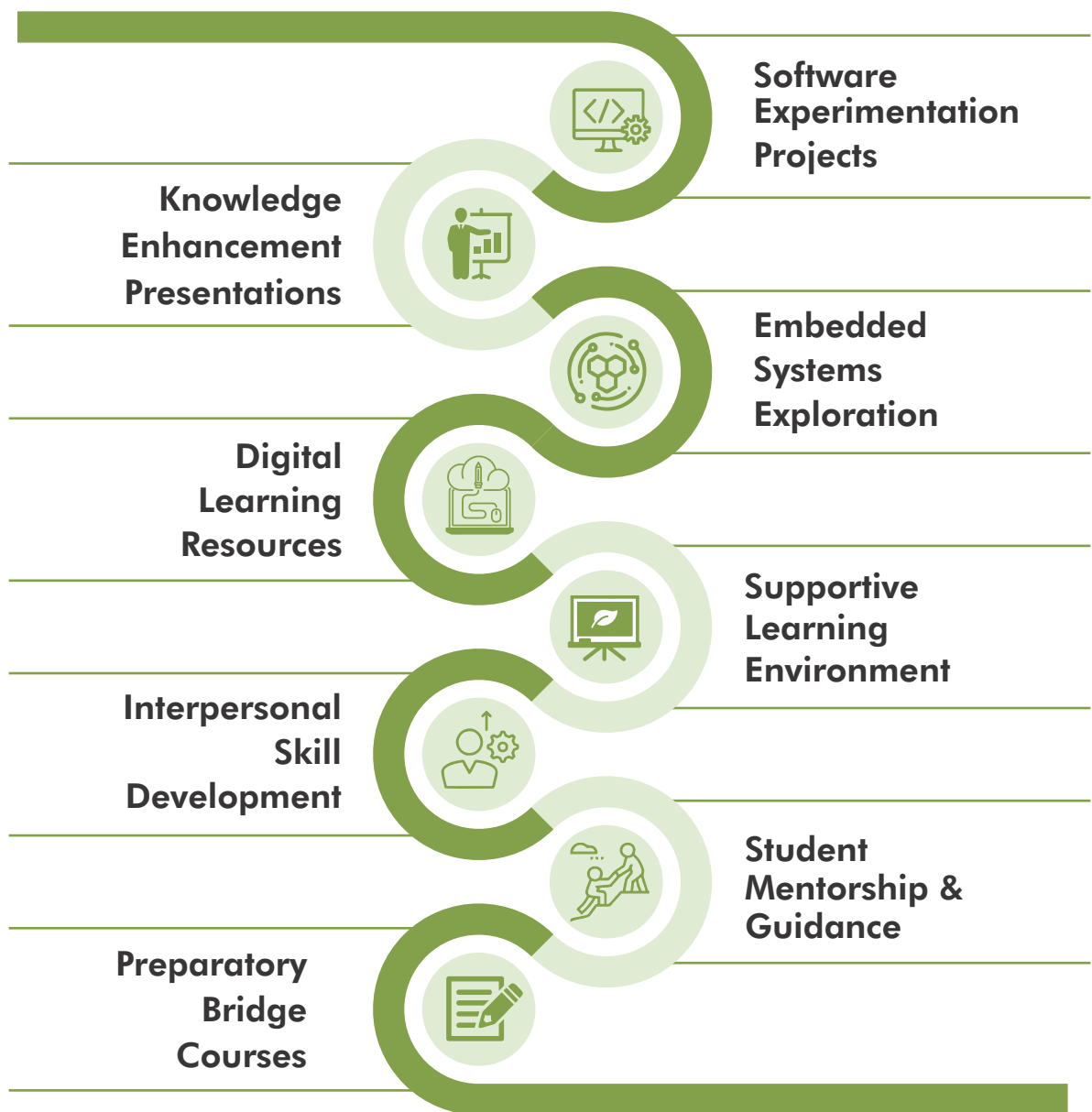
CAREER DIMENSIONS

The Placement cell is in continuous effort to provide the student with best possible placement opportunities. It works towards preparing the students to become eligible for jobs in most efficient and reputed companies and at most appropriate job designations. It actively organises various placement support activities as mentoring and preparing students to be prepared for facing interviews, building an effective resume, pre-placement talks, placement registrations and guidance.

GLOBAL COLLABORATIONS



TOWARDS ACADEMIC EXCELLENCE



HACKATHON



Hackathon is Education Department, Government of Gujarat initiative to design and develop innovation processes and ecosystem across universities. At state level, SSIP is pioneering series of interventions through its annual flagship program of Gujarat Hackathon. In this program, real life challenges posed by various stake holders that are solved by young students in a 36 hours programming challenge. Each year, students from across various disciplines of Computer Applications, Engineering, Pharmacy and allied branches participate in this one of its kind program at state level.

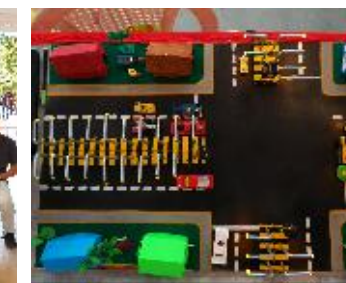
5 teams from FCAIT participated in HACKATHON – 2019. The teams were mentored by the faculties. The teams worked on industrial challenges in domains of Education System, Information and Broadcasting, Agriculture & Farming, Health and Family Welfare and others.

“It was a great learning experience in participating in such a grand event. The students are immensely benefited by this exposure and it has enabled us to showcase our technical knowledge at such a grand platform. I am really thankful to our mentor and FCAIT for their support.” - Mohit Tanwani (Team Leader, “Attendance SPY”, 1st Position (Education Domain) – HACKATHON 2018)

HARDWARE EXPLORATION

Explore, Expand, Expedite, Enhance !!!

At FCAIT, the core focus is to be a Pioneer in delivering Computer Science education in most innovative and flourishing realms. Students at FCAIT are always motivated and stirred to delve into most advanced and developing technologies. This attitude enables students to get an insight on such technologies and get cutting edge knowledge. Thus, the students shine out with exclusive knowledge. Students explore hardware components as Arduino and Raspberry Pi microcontrollers, Robotics, AI and other incipient technologies. Round the year, students experiment and showcase their projects by presenting real-life live models and posters on RFID Based Attendance System, Robotics, Home Automation and other technologies.



APTITUDE ENHANCEMENT



TECH TALKS

Stimulating and Interactive
Technology Oriented Talks
on Advanced and
Upcoming Technologies



INDUSTRIAL VISITS

Facilitate Students
Progression by Developing
Practical Knowledge and
Understanding the
Technicalities of Various
Industry Processes



SEMINARS & WORKSHOP

Hands-on Experience for
students on various
Progressive Technologies



GUEST LECTURES

Focusing on Holistic
Development of Students by
Lectures on Career
Opportunities, Soft Skill
Development, Personality
Development, Preparation for
Competitive Examinations
and others



LIVE PROJECTS

Develop Technological
and Intellectual Abilities,
Communication
Skills and Team
Working Capabilities



SHADEZ

Platform that Fabricates
Activities to Unwind the
Talents of Students



YOUTH FESTIVALS

Celebrating and
Felicitating Talents at
the University
Extravaganza



SPORTS

Enlightening the
Competitiveness,
Team Spirits
& Physical Awareness
amongst students



ISR ACTIVITIES

Acquainting Students to
Social Responsibility &
Sustainability



HACKATHON

Motivating the Budding
Talents on National &
State Level
Platforms Through
Government Initiatives



EXPERT LECTURE SERIES

Latest Insights into the
Emerging Technologies
and Advancements
through Guidance by
Industry Experts



NATIONAL LEVEL TECHNICAL FESTIVALS

Celebrating the
technical enrichment
and knowledge



DKOSMOS

Magazine to vitrine
students' writing
skills