

Faculty of Computer Applications &
Information Technology



**BACHELOR OF COMPUTER
APPLICATIONS
(B.C.A.)**
(NAAC Accredited)
SIX SEMESTERS DEGREE COURSE

Pioneer in
Computer
Science
Education



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 and Commerce. Several programmes such as B.C.A., iMSc (IT), M.C.A, MSc (IT), B.B.A., M.B.A., B.Com., M.Com., etc. are offered by the various institutes under the umbrella of GLS university. The university is geared up to introduce other pioneering undergraduate and postgraduate programmes in the various disciplines. With a view to provide impetus to research, the university intends to have research focus in its undergraduate and postgraduate programmes. Moreover, exclusive research degrees like Ph.D. have also been introduced in various disciplines.

FACULTY OF COMPUTER APPLICATIONS & INFORMATION TECHNOLOGY (FCAIT)

FCAIT offers various technology oriented undergraduate and postgraduate courses with a distinctive fusion of technology, innovation and creativity. The institute nurtures students in a conducive environment to enhance their intellectual, academic and vocational skills.

FCAIT offers various contemporary subjects encompassing the Cutting-edge Open Source technologies so that students have opportunities to learn, to engage and to transform. The institute trains students to hold up with the current trends and technologies and motivates to demonstrate intelligence, ingenuity, inventiveness and independence in all areas of endeavours.

The institute believes in providing an ambiance where a student can grow academically, emotionally and socially. The institute always inspires its students to develop inquisitive minds, become engaged citizens, turn out to be dynamic professionals and well-rounded individuals.





FROM THE PRESIDENT'S DESK

Dear Prospective Student,

Greetings from GLS University!

At GLS University, we believe that it is not a crisis, but our response to it that defines us.

The COVID-19 global pandemic represents the most serious public health challenge that our country and the world have faced in a century. At the outset, I would like to take this opportunity to thank all the doctors, nurses, technicians, pharmacists, sanitation workers, emergency services workers, teachers, and everyone who is rising to the occasion and caring for our society at large. Your dedication, commitment, and courage deserve our deepest gratitude and admiration. Your service to our society is touching countless lives and making thousands of differences.

GLS University has been working tirelessly not only to help mitigate the effects of this crisis on the university community but also to alleviate the suffering of the most vulnerable members of society.

Our constant concern from the beginning of the crisis has been the health, welfare, and safety of the entire GLS University community. Apart from taking the precautionary steps to curb the spread of the virus, we have successfully completed our vaccination drive and more than 500 staff members of GLS University have been duly vaccinated. As even the darkest night ends with the crack of dawn, we are hopeful that the measures taken will lead us through these difficult times and take us forward to a better future.

To this end, we have also taken a number of significant operational decisions. Whilst we all are adapting to new norms of maintaining social distancing; GLS University is investing heavily into world-class ONLINE platforms and Learning Technologies that will ensure that the education delivery continues uninterrupted. This initiative would put our university at par with the leading global universities that have adopted high-tech educational innovations enabling us in doing all academic tasks ONLINE such as:

- 1) **Conduct and Record Online Virtual Video Lectures**
- 2) **Arranging Online Exams, Presentations, Quizzes and Assignments**
- 3) **Enabling Online Group or Collaborative work**
- 4) **Online Query resolution**
- 5) **Online Grading, Feedback, and Announcement of Results**

GLS University and on behalf of my staff members, we ensure a smooth educational journey during your programme tenure at GLS University.



As one of the most respected and long-standing institutions in Gujarat, GLS University has taken its responsibility very seriously. From contributing to the CM's Relief Fund, a comprehensive student benefit scheme/ scholarship for all deserving and needy students to reduce their financial hardship, special scholarship for COVID-19 affected students, GLS University is doing its bit in line with our motto of **"Learn, Love, Serve"**.

While there is still a lot of uncertainty about the coming months, our plans for the next academic year are based on two principles that remain completely certain:

- 1) First and foremost, to protect the health of our students to the best extent possible
- 2) To provide all of our students with an excellent academic experience

I want to provide a strong assurance that we shall be doing everything possible to safeguard the health of our community through the fulfillment of all norms & safeguards at our campus and to maintain our high standards of excellence in teaching and learning.

No matter what, we are committed to educating all of our students in the upcoming new academic year, in VIRTUAL classrooms, and beyond the classroom. We are committed to a safe and enriching educational experience. We are committed to you.

Sudhir Nanavati

President
GLS University

BCA PROGRAMME

Bachelor of Computer Applications (BCA) is a three years (six semesters) Under Graduate Programme based on Choice Based Credit System (CBCS). The academic programme is diligently designed to impart holistic education that broadens the technical, cultural and ethical dimensions of the students.

With an Educational Authenticity and Operational Credibility of over 22 years, BCA programme is customized for individuals wishing to excel in the field of Computer Science and Applications. This programme enables the students to stay updated about the latest advancements in various programming languages and other computer technologies. The programme aims to develop problem solving aptitude amongst students and make them proficient in solving practical problems arising from the industry – technology interface. The Programme offers syllabus fabricated to include latest advancements in technology and equips aspirants with the required skills and knowledge to enter into the industry and carve a niche. An intrinsic blend of contemporary and traditional subjects like Artificial Intelligence, Introduction to AR/ VR, NoSQL Database, Full Stack Development, Introduction to Data Analytics, Design Thinking, Python Programming, Introduction to Angular, Emerging Technologies, Embedded Systems, Drupal, Information Security, Cross Platform Mobile Application Development, Website Frameworks, Cloud Computing, Digital Marketing, Publishing Tools and others are offered by the institute.

Ranked 1st for Academic Excellence in Gujarat for consecutively 3 years in the All India Survey by India Today

Amongst Top 25 BCA Colleges in the All India Survey by India Today

Ranked 2nd in Gujarat amongst Top 100 BCA Colleges of India Survey by Outlook India

DISTINCTIVE FEATURES

01

NAAC Accredited Institute

02

Hands - on Practical Sessions for grounding the Computer Science Fundamentals

03

Emphasis on Proactive Learning

04

Highly Equipped Labs for Practical Exposure

05

Exemplary Pedagogical Approaches

06

Highly Experienced & Trained Faculty Team

07

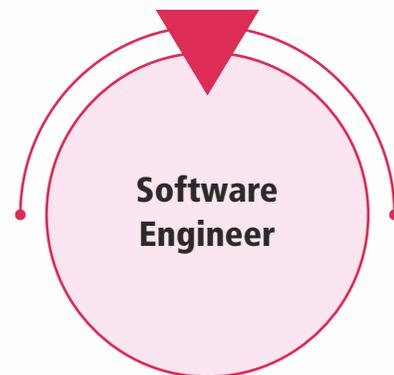
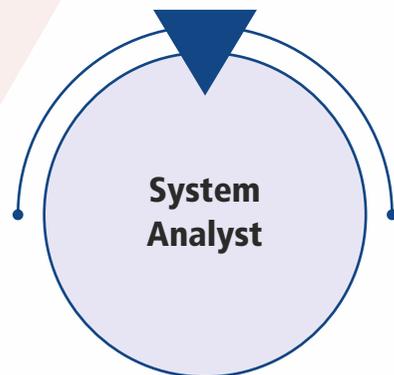
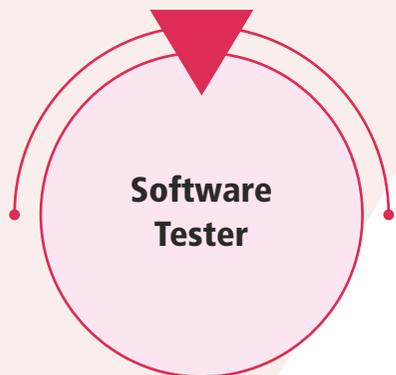
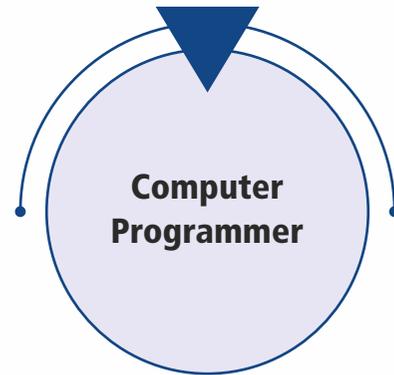
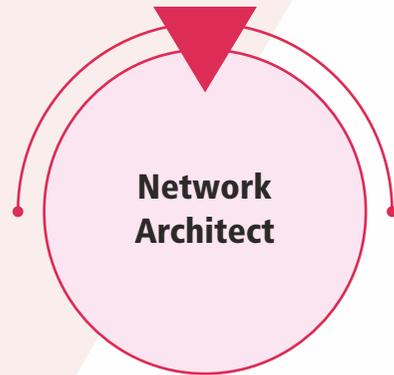
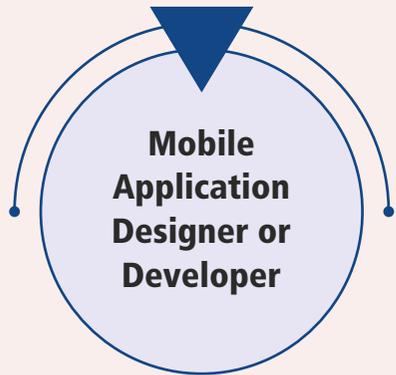
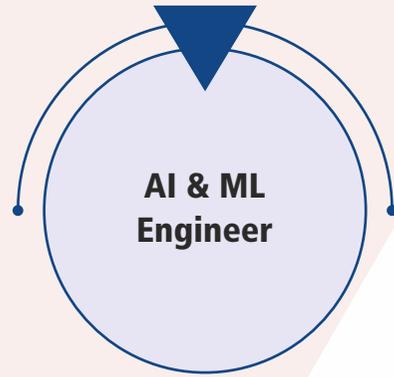
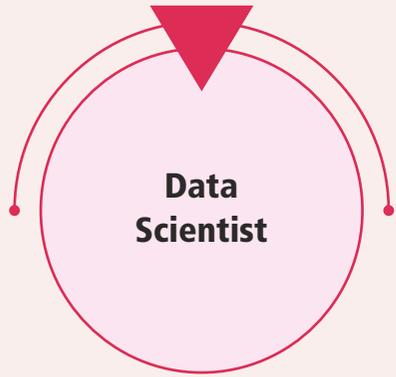
Intricate Infrastructural Resources

08

Rich Collection of Library Resources

FUTURE OPPORTUNITIES OF BCA

BCA Programme avail students with opportunities to equip themselves for strategic positions at companies where information & communication technologies have become crucial components. Students learn and meet up revolutionary and challenging roles as :



▶ THE CURRICULUM

BCA Course runs on Choice Based Credit System (CBCS). It is an instructional package developed to suit the needs of students to keep pace with the developments in higher education and the quality assurance expected of it in the light of liberalization and globalization in higher education.

All the foundational subjects are well covered with theoretical and practical exposure for skill development. Special emphasis is laid on implementations through Open Source Platforms as a vehicle for learning the Computer Science subjects.

The subjects are categorized as:

▶ **Core Courses (CCs)** – subjects related to the programme

▶ **Core Elective Courses (CECs)** – subjects offered for specialization related to the programme

▶ **Elective Courses (ECs)** – subjects offering interdisciplinary exposure

▶ **Foundation Courses (FCs)** – subjects focusing on developing analytical and communicative skills





COURSE STRUCTURE

SEMESTER I

- Computer Fundamentals & Information Technology
- Logic Development & Programming
- Introduction to HTML5, CSS & Javascript
- Mathematics for Computer Science - I
- Practical on LDP
- Practical on HTML5, CSS and Javascript
- Publishing & Multimedia Tools

SEMESTER IV

- Advanced Java
- Introduction to XML
- Structured & Object Oriented Analysis & Design
- Data Communication & Networks
- Practical on Advanced Java
- Practical on XML
- Linux Shell Scripting (Practical)

Core Elective Courses

- Introduction to NoSQL Database
- Introduction to Augmented Reality / Virtual Reality
- Full Stack Development
- Software Engineering
- Emerging Technologies

SEMESTER II

- Introduction to Object Oriented Programming
- Mathematics for Computer Science - II
- Database Management System - I
- Computer Organization & Advanced Microprocessors
- Practical on IOOP
- Practical on DBMS - I
- Practical on Angular

SEMESTER V

- Website Development Using PHP & MySQL
- Information Security
- Introduction to Cloud Computing
- Practical on PHP
- System Development Project - I

Foundation Courses

- History of Computing
- Introduction to Embedded Systems
- Introduction to Web Services
- Introduction to Data Analytics
- Statistics for Data Analysis
- Operation Research
- Communication Skills
- Fundamentals of Accounting
- Professional English
- Website Frameworks using Joomla
- Website Frameworks using ROR
- E-Governance & E-Commerce
- Enterprise Resource Planning
- Management Information System
- Customer Relationship Management

SEMESTER III

- Core Java
- Data Structures
- Database Management System - II
- Fundamentals of Operating System
- Practical on Core Java
- Practical on DS
- Practical on DBMS - II

SEMESTER VI

- Introduction to Python
- Introduction to Artificial Intelligence
- Cross Platform Mobile Application Development
- Practical on Python
- System Development Project - II

Elective Courses

- Design Thinking
- Digital Marketing
- Green Computing
- Principles of Management
- Disaster Management
- Learning from World Leaders
- History of Gujarat & its Culture
- Health Education
- Gandhian Movement
- Environmental Studies
- Soft Skills Development
- Introduction to Indian Constitution
- Stories from English Literature

ADMISSION PROCESS

The outbreak of COVID-19 has worked as a catalyst for the educational institutions to grow and opt for platforms with technologies, which have not been used before. We are determined to provide extensive admission support and counselling to the aspiring students and their parents. For the academic year 2021-22, the admission to the institute will be through an online process. When the admissions are declared, the candidates who wish to take admission need to apply online through the university website. The admission process for the last academic year was also undertaken online. The experience of this online admission process was quite beneficial for the parents and students fraternity.

ELIGIBILITY CRITERIA FOR ADMISSION

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 in the current year with the following subjects:

- (1) **English and**
- (2) **Any one of the following subjects:**



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 :**

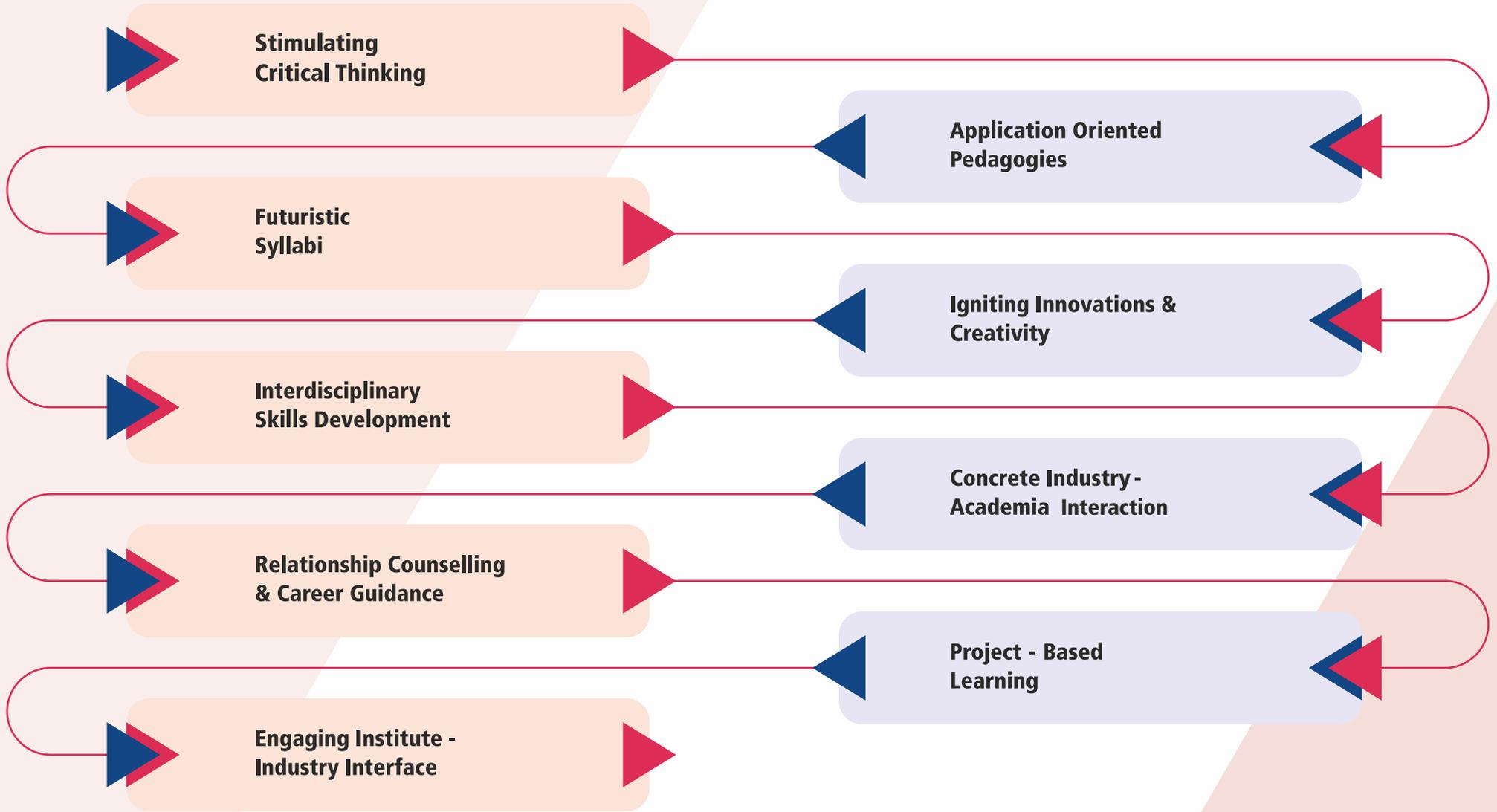
45%

**For Reserved
Category Candidates :**

40%



PEDAGOGY





HOLISTIC DEVELOPMENT

TECH TALKS



Stimulating Inquisitiveness through talks on History of Contemporary Technologies

EXPERT LECTURE SERIES



Guidance by Industry Experts on the Advancements in Technologies

EDUCATIONAL TOURS



Educational Tours to Gain Insight Beyond Textbooks

LIVE PROJECTS



Develop Technological & Intellectual Abilities, Communication Skills and Teamwork Capabilities

CYBERSHADEZ



National Level Festival for Stimulating Young Minds

INDUSTRIAL VISITS



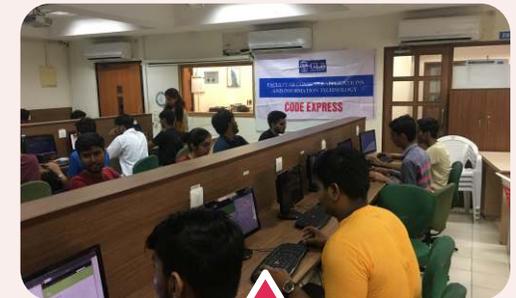
Exploring Various Dimensions of Technology

SEMINARS & WORKSHOPS



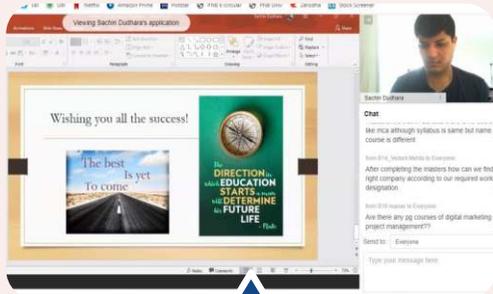
Seminars & Workshops covering different areas of Technology

CODE EXPRESS



Solving Code Challenges to enhance Programming Skills

ALUMNI TALK



Live Video Interaction
With Alumni

YOUTH FESTIVAL



Celebrations of the
Cultural Talent Pool

ISR/ NSS



Awareness Programmes about
Social Assets & Responsibility

SPORTS



Motivation for an
All-Round Development

DKOSMOS



Magazine to Showcase
Literary Talents

SHADEZ



Cultural Activities to
Showcase Multifaceted Talent

CWDC



Awareness Programmes
for Women Development
& Upliftment

ALUMNI MEET



Rekindling the Memories and
Associating the Experiences

▶ Smart Solutions Lead to Smarter Devices!!!

IT has been pioneer in bringing millions of people together beyond the physical boundaries of the Globe. The IoT technologies create a constellation of objects and devices that connect people and peripherals. From personal wearables to city-controlled amenities, nearly everything seems to join the network of "Smart" devices. IoT technology has the potential to be utilized to combat the COVID-19 pandemic. To convert education in a way that would utilize knowledge and technology both together, we encourage students to develop various projects on IoT or Embedded Systems using Arduino and Raspberry Pi.



▶ INTERNATIONAL COLLABORATION



▶ No Problem Too BIG!!! No Idea Too SMALL!!!

Hackathons are competitive platforms for creative problem solving with a collaborative approach to tackle real life challenges. The Governments have introduced Hackathon as a pioneering series of interventions through initiatives at International, National and Regional levels to promote the concept and leverage the technical skills of the students. Under the aegis of various competitions held across various online and offline platforms, few "Out of the Box" innovative solutions are proposed by students on Multidisciplinary fields of Social Relevance. Over the years, students of FCAIT have participated at various International, National as well as State levels of Hackathon Competitions.

Challenging Themes – Healthcare, Security & Surveillance, Robotics & Drones, Waste Management, Smart Devices & Communications, Agriculture and Rural Development, Urban Welfare

100+ Participants

30+ Teams & Mentors

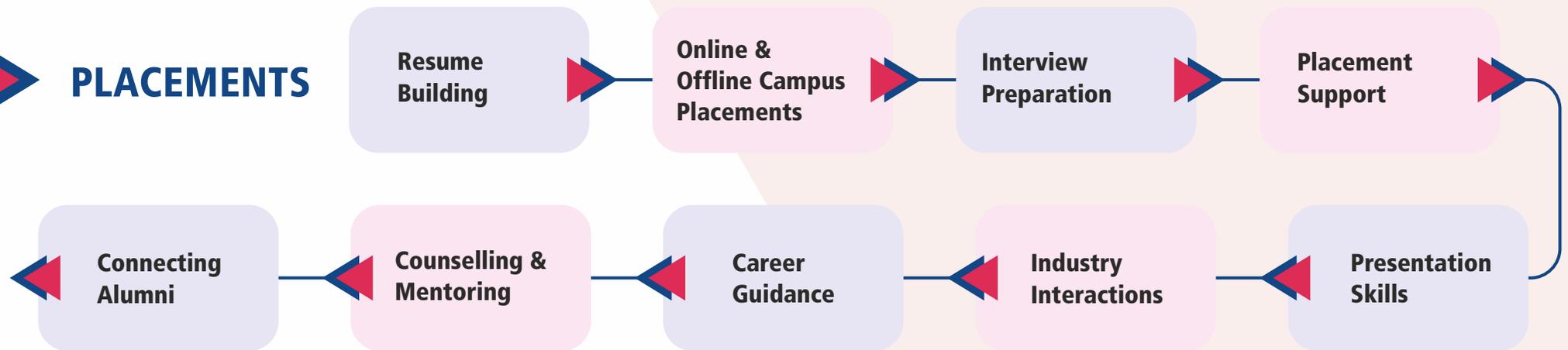
10+ Hackathons Events

06+ Winner Teams

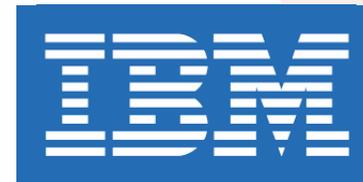
Cash prizes of more than 1,50,000/-



▶ PLACEMENTS



▶ OUR RECRUITERS

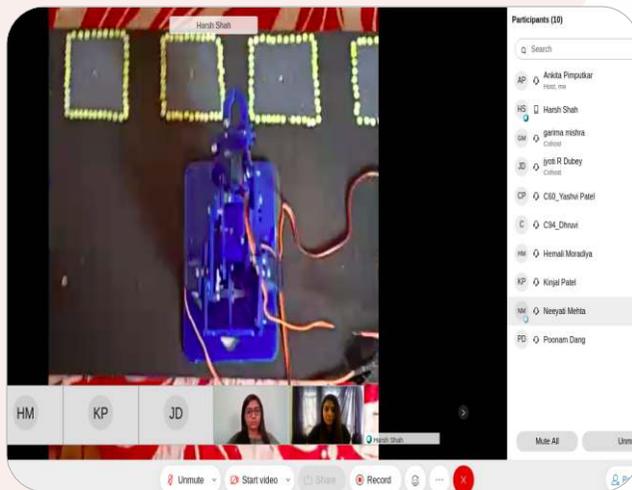
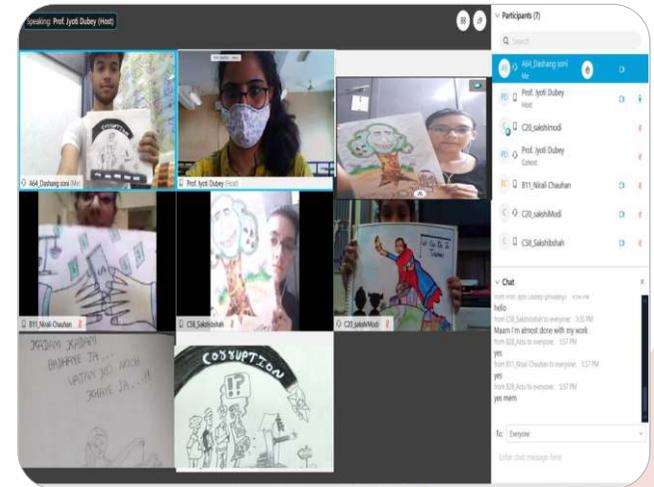




New World, New Thinking, New Challenges, New Abilities

As a consequence of the pandemic, we had to rise beyond the limitations of physical presences in the classes making virtual interactions closer than reality. While the faculties had to strive to satisfy students learning process, the overall experience was found to be quite good both by the students and faculties. We look forward to pursue this pedagogy more gainfully if the pandemic situation disrupts the face – to – face classroom teaching process.

- Opening new avenues to technologies through online seminars & workshops
- Engaging and Encouraging students academically through online teaching
- Adopting new pedagogical approaches to meet present-day requirements
- Providing online platforms for curricular and co-curricular activities to vitalise student talents
- Seamless safety measures and security approaches adopted throughout the infrastructural and academic undertakings
 - Adorning Masks
 - Through Temperature Screening Protocol
 - Promoting & Demonstrating Hygiene Behaviours
 - Maintaining Social Distancing





Skill Enhanced Diploma Programmes @ GLS University

GLS University proudly offers series of skill enhanced Diploma Programs for their undergraduate students along with their conventional graduation programme. The following programmes equip the students for their career progression & enhancements:

Diploma Programme in Strategic Management and HRM for Business Excellence

Strategic Management provides overall direction to an organization and involves specifying the organization's objectives, developing policies and plans to achieve those objectives. It is important for the organizations to formulate and implement major goals and initiatives based on consideration of resources and an assessment of the internal and external environments in which the organization operates.

Companies are building smart strategies with quick, flawless execution. To deliver the same consistently, they need a talent pool. HR professionals have a unique perspective of on the businesses they work for. They become central to the company's functions by getting the right talent at the right time. It not only helps you work on the theory but also enables you to discover your own style of managing people. In entirety, it ties up with the overall organizational strategy and purpose.

Objectives of the Program :

- To develop a strategically conceptual and analytical thought processes.
- To create an understanding of adapting the organization to its business environment.
- To create an understanding of the importance of HR as a strategic partner.
- To develop an insight of how the traditional HR functions have now to be aligned with Corporate Strategies to provide competitive advantage to the Organization.

Diploma Programme in Small Enterprise Management

We all live in a VUCA world, and in the present time entrepreneurship is the critical factor needed to not just stabilize and grow the economy but also sustain the humankind on this planet. This program intends to equip students with a basic tool kit to develop their entrepreneurial potential and benefit them in their preferred pursuits of starting a new business or develop an innovative project within an organisation.

Objectives of the Program:

- To develop entrepreneurs by inculcating and nurturing entrepreneurial skills and capabilities.
- To develop an Intrapreneurial approach within the organization.
- To work on the human potential to convert capacities into capabilities.
- To deepen and update their business knowledge, understanding and practice.

▶ Diploma Programme in Business with International Foundation

The world is now a global economy. It is imperative for the present day youth to have global context of business and have insights into the logistics of international trade and cross-border investments as well as the cultural and ethical issues that are imbued in the practice of business around the world. This course shall help you approach and solve business challenges from an altogether new perspective. These skills are increasingly valuable to employers faced with the challenge of opening and integrating multiple markets and achieving cohesion and collegiality in increasingly diverse workforces.

Objectives of the Program :

- Developing a deeper understanding in one's subject area and the ability to present, access and analyze relevant information to make reasoned and calculated business decisions.
- Learning the optimal usage of digital technologies to enhance personal and professional skills
- Work collaboratively in cross-cultural situations and develop intercultural awareness, understanding and competence.

▶ Award of Certificate

Students who successfully complete and pass the modules stipulated in the programme structure will be awarded two certificates from GLS University and Partner University.

▶ Partner Universities



INFRASTRUCTURAL RESOURCES



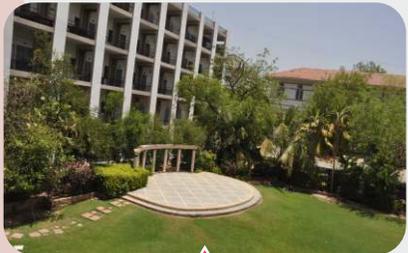
AC Class Rooms



Open Source Labs



Library



Open Air Theatre



Auditorium



GYM



Sports Ground



Cafeteria



Hostel



Faculty of Computer Applications & Information Technology

BCA Programme
(NAAC Accredited)

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- www.glsuniversity.ac.in/bca.html
www.glsufcait.org

