GUJARAT TECHNOLOGICAL UNIVERSITY
ESTD - 2007

समुचित
ज्ञान
समन्वय

**Prominent Achievements of GTU**

ARIIA
ATAL RANKING OF INSTITUTIONS ON INNOVATION ACHIEVEMENTS

uni Rank™

GSIRF
ICARE RATINGS
UNIVERSITIES
OVERALL

5th Ranked in All Government Universities in INDIA in 2020

1st Rank in All Universities in Gujarat in 2020

1st Ranked in University in Gujarat in 2019

# GUJARAT TECHNOLOGICAL UNIVERSITY

## Graduate School of Engineering and Technology (GTU-GSET)

Shed-V, Gujarat Technological University Campus, Near Visat-Gandhinagar Circle, Visat-Gandhinagar Highway, Chandkheda, Ahmadabad- 382424. URL : set.gtu.ac.in

### STUDENT INFORMATION BOOKLET A.Y. 2020 -21

GUJARAT TECHNOLOGICAL UNIVERSITY

गुजरात टेक्नोलॉजिकल युनिवर्सिटी
GUJARAT TECHNOLOGICAL UNIVERSITY

# CONTENT

GUJARAT TECHNOLOGICAL UNIVERSITY

Gujarat Technological University is a premier academic and research institution which has driven new ways of thinking since its 2007 founding, established by the Government of Gujarat vide Gujarat Act No. 20 of 2007. Today, GTU is an intellectual destination that draws inspired scholars to its campus, keeping GTU at the nexus of ideas that challenge and change the world.

> ### Objectives

- Transparent and acceptable operations to all stakeholders.
- To provide quality education, training, vocation and research facilities to our students.
- To continuously organize and manage Faculty Development Programs (FDPs), Seminars and Conferences.
- Affiliate and coordinate with colleges for an effective education delivery mechanism.
- Timely and efficient conduct of the Examination process.
- To facilitate student's placements into suitable and meaningful careers and future of their choice.

GTU has partnered with leading industries and associations like Bosch Rexroth, Oracle, IEEE, NSE, BSE, C-DAC and many more to encourage industry-academia knowledge exchange

## 2. About GTU - Graduate School of Engineering and Technology

Gujarat Technological University has started Graduate School of Engineering and Technology (GSET) with AICTE affirmed post graduate courses. As per the demand of recent era GSET has started initially post graduate program in computer discipline with specialization in Cyber Security in the year of 2017. GSET has additionally begun another post graduate program in Electronics and Communication discipline with specialization in Mobile Communication and Network Technology in the year of 2018.

Both of these programs have been run under Gujarat Technological University – Graduate School of Engineering and Technology (GTU-GSET) with the vision of giving outstanding specialized knowledge and prepare research oriented technocrats for society. Each post graduate program having intake capacity of 30.

Apart from that considering existing required skill in the market GSET also has started one year post graduate diploma course in Data Science from academic year 2020-21 with the intake capacity of 30 which is Gujarat Technological University approved course.

Following are salient features of the courses run under GTU-GSET:

- GTU-GSET is an university managed-govt. institute
- Admission through ACPC.
- Courses are run in academic campus of GTU.
- GSET students are guided and acknowledged by senior academicians and industry experts in capacity of advisors.
- Students are facilitated to showcase their talent by arranging various student leaded programs.
- Easy access to conferences and workshops organized by GTU in campus itself, elsewhere in India and abroad.
- High end company facility with latest laboratory equipment.
- Live research projects proposed by regulatory bodies and industries.
- Highest Placement opportunities.
- State of art library facility.
- On campus hostel facility is available for boys and girls.

### ➤ Vision of GTU-GSET

- To create an ecosystem in education and research that provides socially responsible, globally acceptable technocrats, innovators and entrepreneurs.

### ➤ Mission of GTU-GSET

- To develop state-of-art research facilities with well-equipped academic infrastructure
- To establish strong collaborations with research organizations, Institute of national importance and Industries that promote research and consultancies
- To encourage innovative practices to produce innovators and entrepreneurs
- To leverage International linkages of the University to establish strong international outreach

### 1. Post Graduate in Cyber Security

➤ **About Program**

- Cyber Security Post Graduate program offered through GTU-GSET help students to understand modern information and system protection technology and methods. This AICTE approved Post Graduate ME course of two years duration has an intake of 30 students per year and the admissions are done through ACPC, Gujarat. It involves the learning of cybersecurity tools and techniques, services, systems, programming methodologies, and the best-designed approach. The students can be able to learn about the detection, prevention, and mitigation of cybercrime.

➤ **Vision of Program**

- To create a research environment to provide socially responsible and technically sound postgraduate technocrats, innovators and entrepreneurs in the cyber security domain.

➤ **Mission of Program**

- To develop state-of-art research facilities of cyber security and digital forensics with well-equipped academic infrastructure

- To encourage faculty to do research and consultancies in the field of cyber security and digital forensics.

- To establish strong linkages with research organizations, Institute of national importance and Industries for cyber security.

- To promote innovative practices to produce innovators and entrepreneurs in the field of cyber security.

- To leverage International linkage of Gujarat Technological University to establish strong international outreach for cyber security domain.

# Course Structure

| Sr.No. | Sem | Course Type | Course Code | Course Name | Th Hrs | Tut Hrs | Pr Hrs | Course Credit |
|---|---|---|---|---|---|---|---|---|
| | | | | **Semester 1** | | | | |
| 1 | 1 | Core-1 | 3715901 | Mathematical Foundation for Cyber Security | 3 | 0 | 2 | 4 |
| 2 | 1 | Core-2 | 3715907 | Defense Programming in Python | 3 | 0 | 2 | 4 |
| 3 | 1 | PE -01 | 3715903 | Introduction to Cryptography | 3 | 0 | 2 | 4 |
| 4 | 1 | | 3715908 | Digital Forensic | | | | |
| 5 | 1 | | 3715909 | Intrusion Detection | | | | |
| 6 | 1 | PE -02 | 3715905 | Cyber Crimes, Ethics and  Laws | 3 | 0 | 2 | 4 |
| 7 | 1 | | 3715906 | Cyber Security: Administration and Management | | | | |
| 8 | 1 | | 3715910 | Secure Software Design and Enterprise Computing | | | | |
| 9 | 1 | - | 3710001 | Research Methodology & IPR | 1 | 0 | 2 | 2 |
| 10 | 1 | Aud -01 | 3700005 | Audit Course -1 : Constitution of India | 2 | 0 | 0 | 0 |
| | | | **Total  (Hrs.)** | | 15 | 0 | 10 | 18 |
| | | | | **Semester 2** | | | | |
| 1 | 2 | Core-3 | 3725910 | Operating system and Host Security | 3 | 0 | 2 | 4 |
| 2 | 2 | Core-4 | 3725908 | Malware Analysis | 3 | 0 | 2 | 4 |
| 3 | 2 | PSE -03 | 3722323 | Information Theory & Coding | 3 | 0 | 2 | 4 |
| 4 | 2 | | 3725611 | Steganography &Digital Watermarking | | | | |
| 5 | 2 | | 3725904 | Web and Database Security | | | | |
| 6 | 2 | PSE -04 | 3725902 | Internetworking and security | 3 | 0 | 2 | 4 |
| 7 | 2 | | 3725903 | Ethical Hacking | | | | |
| 8 | 2 | | 3725905 | Security Assessment and Risk Analysis | | | | |
| 9 | 2 | Core | 3720001 | Mini Project with Seminar | 0 | 0 | 4 | 2 |
| 10 | 2 | Aud -02 | 3700001 | English for Research Paper Writing | 2 | 0 | 0 | 0 |
| | | | **Total (Hrs.)** | | 14 | 0 | 12 | 18 |
| | | | | **Semester 3** | | | | |
| 1 | 3 | PSE -05 | 3735903 | Advance Algorithms | 3 | 0 | 0 | 3 |
| 2 | 3 | | 3735904 | Machine Learning | | | | |
| 3 | 3 | | 3735905 | Mobile and Wireless Communication Security | | | | |
| 4 | 3 | OE -01 | 3730005 | Business Analytics | 3 | 0 | 0 | 3 |
| 5 | 3 | | 3730006 | Industrial Safety | | | | |
| 6 | 3 | | 3730007 | Operation Research | | | | |
| 7 | 3 | Internal Review -1 | 3730002 | Internal Review-1 | 0 | 0 | 4 | 2 |
| 8 | 3 | Dissertation | 3730003 | Dissertation Phase-I | 0 | 0 | 16 | 8 |
| | | | **Total (Hrs.)** | | 6 | 0 | 20 | 16 |
| | | | | **Semester 4** | | | | |
| 1 | 4 | Internal Review-2 | 3740001 | Internal Review 2 | 0 | 0 | 4 | 2 |
| 2 | 4 | Dissertation | 3740002 | Dissertation Phase-II | 0 | 0 | 28 | 14 |
| | | | **Total (Hrs.)** | | 0 | 0 | 32 | 16 |

## ➤ Program Specific Outcome

- To understand and analyse the various cyber-attacks, cyber laws, ethical hacking concepts, defending practice of cyber security, and digital forensics techniques.
- Identify, analyze and develop software and hardware solutions for complex problems in cyber security domain.
- Apply advanced knowledge to identify research challenges, and contribute individually or in team to resolve Cyber Security and Digital Forensics issues.

## ➤ Program Educational Objectives

- To impart knowledge/skill in the areas of cyber security, digital forensics, cyber laws and related disciplines.
- To work in reputed computer and IT security, Government and Research organizations or as an entrepreneur to build cyber safe nation.
- To able to cope with cyber security challenges through continuing education, increased responsibility, team work and ethical code of conduct.

## ➤ Laboratory Details

- Cyber Security and Digital Forensics Laboratory
- High Performance Computing (HPC) Laboratory
- Network Research Laboratory
- Vulnerability Assessment and Penetration Testing (VAPT) Laboratory

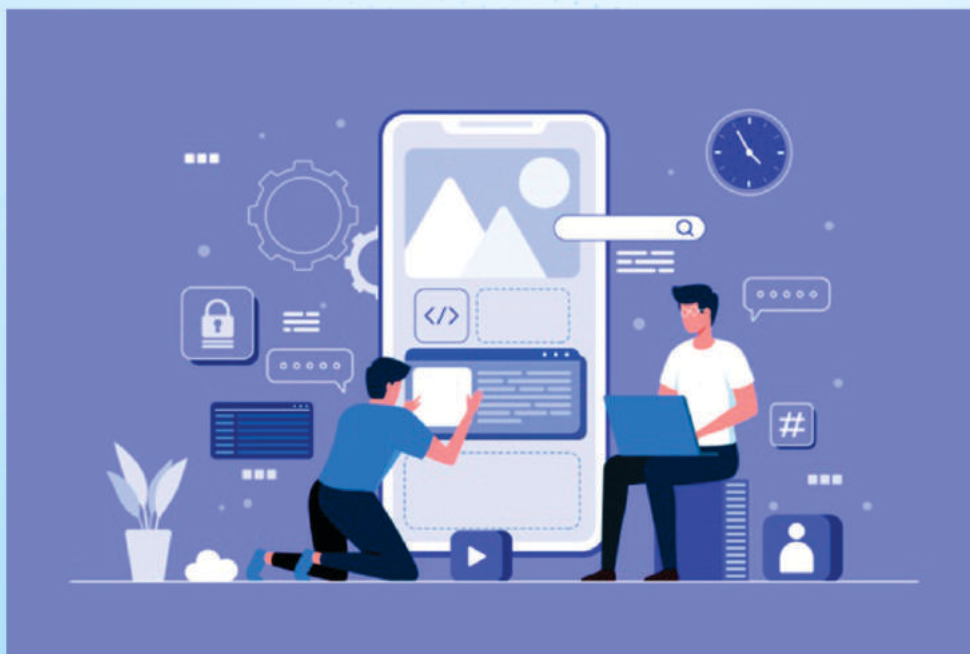## 2. Mobile Communication and Network Technology

### ➤ About Program

Mobile has emerged as truly pervasive and affordable Information and Communication Technology (ICT) platform in the last decade. Mobile Communication and Network Technology post graduate program focuses on strong fundamentals and on developing hands-on skills pertaining to the latest and most popular platforms like Symbian, Android, Windows Mobile. Students will gain knowledge in wireless technologies, such as Bluetooth, Wi-Fi, GPRS, EDGE, 3G, LTE, 4G, 5G and new future innovations. Students will be trained not only to use existing mobile platforms but also to build advanced and robust platform. The students will learn the latest and popular subjects like Internet of Things, Advanced Computer Networks, RF and Antenna Designing, Embedded Technology, Wireless Sensor Networks, Advanced Digital Signal Processing etc.

### ➤ Vision of Program

- To create research environment for producing socially responsible and technically sound technocrats, innovators and entrepreneurs in the field of advanced wireless communication and networking.

### ➤ Mission of Program

- To develop state of art research facilities with well equipped academic infrastructure.
- To encourage faculty and students for research and consultancies.
- To establish strong linkages with research organizations, Institute of national importance and industries of wireless communication and networking.
- To promote innovative practices in department to produce innovators and entrepreneurs.
- To leverage international linkage of university to establish strong international outreach.

## Course Structure

| Sr.No | Sem | Course Type | Course Code | Course Name | Th Hrs | Tut Hrs | Pr Hrs | Course Credit |
|---|---|---|---|---|---|---|---|---|
| | | | | **Semester 1** | | | | |
| 1 | 1 | Core-1 | 3712701 | Advance Communication Network | 3 | 0 | 2 | 4 |
| 2 | 1 | Core-2 | 3710508 | Wireless and Mobile Communication | 3 | 0 | 2 | 4 |
| 3 | 1 | PE -01 | 3710509 | Optical Networks | 3 | 0 | 2 | 4 |
| 4 | 1 | | 3710510 | Statistical Information Processing | | | | |
| 5 | 1 | | 3712707 | Antennas and Radiating Systems | | | | |
| 6 | 1 | PE -02 | 3710513 | Cognitive Radio | 3 | 0 | 2 | 4 |
| 7 | 1 | | 3710514 | RF and Microwave Circuit Design | | | | |
| 8 | 1 | | 3710515 | DSP Architecture | | | | |
| 9 | 1 | MLC | 3710001 | Research Methodology & IPR | 1 | 0 | 2 | 2 |
| 10 | 1 | Aud-01 | 3700005 | Audit Course-1 : Constitution of India | 2 | 0 | 0 | 0 |
| | | | **Total (Hrs.)** | | 15 | 0 | 10 | 18 |
| | | | | **Semester 2** | | | | |
| 1 | 2 | Core-3 | 3722711 | Wireless Sensor Network | 3 | 0 | 2 | 4 |
| 2 | 2 | Core-4 | 3722712 | Advanced Digital Signal Processing | 3 | 0 | 2 | 4 |
| 3 | 2 | PE -03 | 3720506 | Satellite Communication | 3 | 0 | 2 | 4 |
| 4 | 2 | | 3720514 | IOT and Applications | | | | |
| 5 | 2 | | 3720515 | Software Defined Networks | | | | |
| 6 | 2 | PE -04 | 3720517 | Markov Chain and Queueing System | 3 | 0 | 2 | 4 |
| 7 | 2 | | 3720518 | MIMO System | | | | |
| 8 | 2 | | 3720519 | Embedded Wireless Technology | | | | |
| 9 | 2 | Core | 3720001 | Mini Project | 0 | 0 | 4 | 2 |
| 10 | 2 | Aud-02 | 3700001 | Audit Course-2 :English for Research Paper Writing | 2 | 0 | 0 | 0 |
| | | | **Total (Hrs.)** | | 14 | 0 | 12 | 18 |
| | | | | **Semester 3** | | | | |
| 1 | 3 | PE -05 | 3730505 | High Performance Network | 3 | 0 | 0 | 3 |
| 2 | 3 | | 3730506 | Pattern Recognition and Machine learning | | | | |
| 3 | 3 | | 3730507 | Remote Sensing | | | | |
| 4 | 3 | OE | 3730006 | Business Analytics | 3 | 0 | 0 | 3 |
| 5 | 3 | | 3730007 | Operational Research | | | | |
| 6 | 3 | Dissertation | 3730002 | Internal Review 1 | 0 | 0 | 4 | 2 |
| 7 | 3 | Dissertation | 3730003 | Dissertation Phase-I | 0 | 0 | 16 | 8 |
| | | | **Total (Hrs.)** | | 6 | 0 | 20 | 16 |
| | | | | **Semester 4** | | | | |
| 1 | 4 | Dissertation | 3740001 | Internal Review 2 | 0 | 0 | 4 | 2 |
| 2 | 4 | Dissertation | 3740002 | Dissertation Phase-II | 0 | 0 | 28 | 14 |
| | | | **Total (Hrs.)** | | 0 | 0 | 32 | 16 |

## ➢ Program Specific Outcome

- Understand, design and implement emerging technology in the field of mobile communication and network technology.
- To analyze real time problems, design appropriate system to provide solutions which are technically sound, cost effective and beneficial to the society in mobile communication and network technology.
- To furnish with necessary soft skills, managerial skill, analytical skills to work in the software and hardware industry

## ➢ Program Educational Objectives

- Engage in the effective practice of communication and networking engineering to recognize and solve important tribulations in a diverse range of application areas.
- Involve in research with proficiency in core areas of advanced communication and networking related engineering so as to comprehend engineering trade- offs, analysis, design and technical concepts to create novel solutions for the real life problems.
- Occupy constructively in successful careers in industry, academia and attain positions of importance where they have an impact on their business, profession, and community service with ethics.
- Competent enough in any challenging and dynamic environment communicate effectively in variety of professional context and incorporate government societal and industrial need.

## ➢ Laboratory Details

- Wireless Communication Laboratory
- Internet on Things Laboratory
- Wireless Sensor Network Laboratory
- RF and Microwave Laboratory
- Signal Processing Laboratory

### 3. Post Graduate Course in Data Science (1 Year)

➢ **About Program**

By use of various web-based and mobile-based applications, voluminous data is generated. Hence, it becomes challenging task to handle these data and most importantly to understand the data. Looking at the current and futuristic trends, there will be demand of data science experts who can understand the nature of data, analyze the data and take result-oriented decisions after analysis of the data. This program is for students who are interested in developing skills in data science and data analytics. During one year of program the students will learn insights of subjects like Machine Learning, Programming in Python, Blockchain Technology, Big Data Analytics, Data Analysis using R, Cloud Computing etc.

After acquiring the skills from this program, the candidates can be employed as

(1) Data Engineer who is responsible for creating the infrastructure for collating data from various sources, cleaning it, transforming it and storing it so that it can be used by other people in the team.

(2) Data Scientist whose work typically starts where the job of data engineer ends. He is responsible for extracting insights from the data using various tools & techniques, producing basic data visualizations and reporting dashboards

(3) Machine Learning Engineer who is responsible for analysing data using data preparation and cleaning techniques, statistical/predictive analytics techniques and interpreting the statistical output (hypothesis testing, ANOVA, regression (linear, logistic), clustering, time series, decision trees, naive bayes and many more), machine learning techniques, etc.

➢ **Laboratory Details**

• Programming Language Lab
• Data Analytics Lab
• High Performance Computing Lab

## Course Structure

| Sr. No. | Sem | Course Type | Course Code Yet not received | Course Name | Th Hrs | Pr Hrs | Course Credit |
|---|---|---|---|---|---|---|---|
| **Semester 1** | | | | | | | |
| 1 | 1 | Core-1 | 1618001 | Data Structures and Algorithm | 4 | 2 | 5 |
| 2 | 1 | Core-2 | 1618002 | Statistics and Exploratory Data Analysis | 4 | 2 | 5 |
| 3 | 1 | Core-3 | 1618003 | Fundamentals of Machine Learning | 4 | 2 | 5 |
| 4 | 1 | Core-4 | 1618004 | Introduction to Python Programming | 2 | 6 | 5 |
| **Total** | | | | | 14 | 12 | 20 |
| **Semester 2** | | | | | | | |
| 1 | 2 | Core-5 | 1628001 | Software Tools for Data Management | 0 | 6 | 3 |
| 2 | 2 | Core-6 | 1628002 | Cloud Computing | 4 | 2 | 5 |
| 3 | 2 | Core-7 | 1628003 | Big Data Analytics | 4 | 2 | 5 |
| 4 | 2 | Core-8 | 1628004 | Mini Project | 0 | 4 | 2 |
| 5 | 2 | PSE | 1628005 | Blockchain Technology | 4 | 2 | 5 |
| 6 | 2 | | 1628006 | Deep Learning | | | |
| 7 | 2 | | 1628007 | Natural Language Processing | | | |
| 8 | 2 | | 1628008 | Business Analytics | | | |
| **Total (Hrs.)** | | | | | 12 | 16 | 20 |

# 4. GTU-GSET Committees

## Statutory Committees

| Sr No | Committee | No | Committee members | Designation /Representation in Committees | Remarks/Scope |
|---|---|---|---|---|---|
| 1 | Department Student Grievance Redressal Committee (DSGRC) | 1 | Dr. S D Panchal, Professor & Director, GTU-GSET | Chairperson | ➢ This committee has been formed with reference to GTU/Grievance Circular/2020/ 2442 and UGC regulation 14-4/2012 (CPP-II) dated 06/05/2019. The DSGRC shall submit its report with recommendations (if any) to the head of the institute/ Vice Chancellor, with a copy there of to aggrieved students within 15 days from the date of receipt of the complaint. |
| | | 2 | Dr. Sanjay Chauhan, Professor, GTU-GSP | Member | |
| | | 3 | Dr. Kaushal Bhatt, Asso. Professor, GTU-GSMS | Member | |
| | | 4 | Dr. S K Hadia, Asso. Professor, GTU-GSET | Member | ➢ Term of chairperson and members of committee shall be for period of 2 years from the date of the issue of this document , special invitees shall be continue as member for period of 2 years or till they remain as student of GSET whichever is less. |
| | | 5 | Ayushi Singh, Student, MCNT | Special Invitee | |
| | | 6 | Harsh Kiratstra, Student, Cyber Security | Special Invitee | ➢ The quorum of the meeting of DSGRC including chairperson excluding special invitee shall be three. In considering the grievances before it, the DSGRC follows principles of natural justice. |
| 2 | SC-ST Cell | 1 | Dr.  S. D. Panchal, Professor & Director GTU-GSET | Chairperson | ➢ This committee has been formed with reference to GTU/SC-ST Cell/2016/9080 dated 23/11/2016. |
| | | 2 | Prof. Vagmin Joshi Asst. Professor, GTU-GSET | Member | ➢ The committee has to monitor any issue related SC-ST students, counseling of students, regular meeting with the students, and arrangement for students' complaints. If any such incident comes to the notice of the authorities, action should be taken against the erring Students/ Official/ Faculties members promptly as per guidelines of UGC. |
| | | 3 | Prof. Hemal Nayak Asst. Professor, GTU-GSET | Member | |
| | | 4 | Prof. Komal Borisagar Asso. Professor, GTU-GSET | Member | |
| | | 5 | Shri Ranchhodbhai Khambhala, Librarian-GTU-GSET | Member | |

| 3 | Anti-Ragging Committee | 1 | Dr. S. D. Panchal Professor & Director, GTU-GSET | Chairperson | ➤ This committee has been formed with reference to GTU/Academic/Anti-Ragging/ 2018/7371 dated 03/10/2018. |
|---|---|---|---|---|---|
| | | 2 | Prof. Komal Borisagar Asso. Professor, GTU-GSET | Member | ➤ The committee has to monitor incidents of ragging either as a victim or as a witness, counseling of students on ragging, regular meeting with the students, arrangement for students' complaints. If any such incident comes to the notice of the authorities, action should be taken against the erring Students/ Official/ Faculties members promptly as per guidelines of UGC. |
| | | 3 | Prof. Deepak Upadhyay Asst. Professor, GTU-GSET | Member | |
| | | 4 | Sharvik Joshi, Student, Cyber Security | Special Invitee | |
| | | 5 | Charmi Dave, Student, Cyber Security | Special Invitee | |
| 4 | Sexual Harassment & Monitoring Committee (Internal Complaint Committee) | 1 | Dr. S. D. Panchal Professor & Director, GTU-GSET | Chairperson | ➤ This committee has been formed with reference to GTU/ Sexual Harassment & Monitoring Committee/ 2019/ 4644 Date: 30.05.2019. |
| | | 2 | Prof. Seema Joshi Asst. Professor, GTU-GSET | Member | ➤ The committee has to monitor Prevention, Prohibition and Redressal of Sexual Harassment of women/ men employees and Students (girls/boys) in the institution. |
| | | 3 | Prof. Rutika Ghariya Asst. Professor, GTU-GSET | Member | ➤ The committee has to monitor any issue related of sexual harassment among staff and students, counseling of students, regular meeting with the students, and arrangement for students' complaints. If any such incident comes to the notice of the authorities, action should be taken against the erring Students/ Official/ Faculties members promptly as per guidelines of UGC. |
| | | 4 | Prof. Mahesh Panchal Asst. Professor, GTU-GSET | Member | |
| | | 5 | Prof. Raj Hakani Asst. Professor, GTU-GSET | Member | |
| | | 6 | Aditya Dave, Student, Cyber Security | Special Invitee | |
| | | 6 | Priya Mishra, Student, MCNT | Special Invitee | |
| 5 | Women Development Committee | 1 | Prof. Komal Borisagar Asso. Professor, GTU-GSET | Chairperson | ➤ This committee has been formed with reference to GTU/ WDC/2019/12408 dated 16/11/2019. |
| | | 2 | Prof. Seema Joshi Asst. Professor, GTU-GSET | Member | ➤ The committee has to work as per guidelines of the Women Development Committee of the University. |
| | | 3 | Prof. Rutika Ghariya Asst. Professor, GTU-GSET | Member | ➤ All the female staff and students of the institute are informed to contact the committee for any kind development required for women. |

| | | | | | |
|---|---|---|---|---|---|
| | | 4 | Komal Prajapati Lab Assistant, GTU-GSET | Member | |
| | | 5 | Charmi Dave, Student, Cyber Security | Member | |
| | | 6 | Priya Mishra, Student, MCNT | Member | |
| 6 | GTU Innovation Council | | Dr. S. K. Hadia Asso. Professor, GTU-GSET | Chairperson | ➢ The Committee will make awareness amongst students regarding support from GTU innovation council under various schemes.<br>➢ Committee will encourage students to apply for funding to GTU Innovation Council for different projects.<br>➢ Committee will be responsible to promote the innovation and research environment in the Institute<br>➢ Planning and implementation of the various initiatives taken by university/AICTE/MHRD and UGC in the domain of innovation and start-up |
| | | | Prof. Raj Hakani Asst. Professor, GTU-GSET | Member | |
| | | | Prof. Margam Suthar Asst. Professor, GTU-GSET | Member | |
| | | | Prof. Hemal Nayak Asst. Professor, GTU-GSET | Member | |
| | | | Prof. Vagmin Joshi Asst. Professor, GTU-GSET | Member | |
| | | | Prof. Mahesh Panchal Asst. Professor, GTU-GSET | Member | |

## Institute Level Committees

| Sr No | Committee | No | Committee members | Designation /Representation in Committees | Remarks/Scope |
|---|---|---|---|---|---|
| 1 | Internal Quality Assurance Cell (IQAC) | 1 | Prof. S. K. Hadia Asso. Professor, GTU-GSET | Coordinator | ➢ IQAC will work towards standardization of activities and processes and strive for continuous improvements in standards and their achievement. ➢ It will promote measures for institutional functioning towards continuous quality enhancement through quality culture and establishment of best practices. ➢ It will help to develop a sound basis for decisions required for improving institutional functioning and the building of an organized methodology of documentation. ➢ It will establish procedures and modalities to collect data and information on various aspects of institutional functioning for enabling easier and faster decision-making. ➢ It will enhance quality awareness within the institution and establish the credibility for external accreditation. |
|  |  | 2 | Prof. Komal Borisagar Asso. Professor, GTU-GSET | Member |  |
|  |  | 3 | Prof. Seema Joshi Asst. Professor, GTU-GSET | Member |  |
|  |  | 4 | Prof. Mahesh Panchal Asst. Professor, GTU-GSET | Member |  |
| 2 | Student Support and Counseling Committee (National/ International student) | 1 | Prof. Gautam Makwana Asst. Professor, GTU-GSET | Coordinator | ➢ The committee aims to nurture, support and guide in academic, social, personal development, and research services throughout their stay in the institute. ➢ It helps to enhance the students' effectiveness, ability, and skills to build their healthy lifestyle. ➢ It handles all services such as joining, enrollment, scholarship, certifications etc. ➢ Attention toward the international students and related correspondence with the Authority |
|  |  | 2 | Prof. Seema Joshi Asst. Professor, GTU-GSET | Member |  |
|  |  | 3 | Prof..Komal Borisagar Asso. Professor, GTU-GSET | Member |  |
|  |  | 4 | Prof. Deepak Upadhyay Asst. Professor, GTU-GSET | Member (International Students) |  |
|  |  | 5 | Prof. Mahesh Panchal Asst. Professor, GTU-GSET | Member |  |

| 3 | Library Committee | 1 | Prof. Komal Borisagar Asso. Professor, GTU-GSET | Coordinator | ➤ The committee works to provide state of art library and e-library facilities to all the stakeholder of the Institute |
|---|---|---|---|---|---|
| | | 2 | Prof. Margam Suthar Asst. Professor, GTU-GSET | Member | ➤ Committee will provide latest journals, e-books, different magazines as per the requirement of the curriculum. |
| | | 3 | Prof. Rutika Ghariya Asst. Professor, GTU-GSET | Member | ➤ Budget planning and utilization under the library head |
| | | 4 | Shri Ranchhodbhai Khambhala Librarian, GTU-GSET | Member | |
| 4 | Academic and Admission Committee | 1 | Prof. S. D. Panchal Professor & Director, GTU-GSET | Chairperson | ➤ The committees will work for academic planning, reforms, internal examination planning and execution |
| | | 2 | Prof. Seema Joshi Asst. Professor, GTU-GSET | Coordinator (Cyber security) | ➤ Course/Student progress monitoring during the term |
| | | 3 | Prof. Komal Borisagar Asso. Professor, GTU-GSET | Coordinator (MCNT) | ➤ Information booklet ➤ Result Analysis and review ➤ The committee works as per the guidelines of ACPC and GTU authorities for admission process of various Institute programs. |
| | | 4 | Prof. Mahesh Panchal Asst. Professor, GTU-GSET | Coordinator (PG-DS) | ➤ Committee will work for admission promotion, student's inquiry, whole admission procedure. |
| 5 | Scrutiny Committee for Seed Money Scheme of GTU | 1 | Prof. S. D. Panchal Professor & Director, GTU-GSET | Chairperson | ➤ The committee has to review proposals for seed money schemes received from faculties/students of GSET |
| | | 2 | Prof. S. K. Hadia Asso. Professor, GTU-GSET | Coordinator | ➤ Committee will scrutinize proposals as per guideline of GTU SMS policy and submit them to University IQAC. |
| | | 3 | Prof. Gautam Makwana Asso. Professor, GTU-GSET | Member | |
| | | 4 | Prof. Seema Joshi Asst. Professor, GTU-GSET | Member | |

| 6 | Research, Consultancy & Publications Committee | 1 | Prof. S D Panchal Professor & Director, GTU-GSET | Chairperson | ➢ To promote the Research and Consultancy in the Institute |
|---|---|---|---|---|---|
| | | 2 | Prof. S. K. Hadia Asso. Professor, GTU-GSET | Coordinator | ➢ To Develop overall research Oriented ecosystem in the Institute |
| | | 3 | Prof. Gautam Makwana Asso. Professor, GTU-GSET | Member | ➢ To invite experts to promote research ➢ To proliferate the various grant information among the various faculties |
| | | 4 | Prof. Komal Borisagar Asso. Professor, GTU-GSET | Member | ➢ To plan/organize skill enhancement programs for the faculties and students |
| | | | Prof Seema Joshi Asst Professor, GTU-GSET | Member | |
| 7 | Research, Consultancy & Publications Committee | 1 | Prof. S D Panchal Professor & Director, GTU-GSET | Chairperson | ➢ To promote the Research and Consultancy in the Institute |
| | | 2 | Prof. S. K. Hadia Asso. Professor, GTU-GSET | Coordinator | ➢ To Develop overall research Oriented ecosystem in the Institute ➢ To invite experts to promote research |
| | | 3 | Prof. Gautam Makwana Asso. Professor, GTU-GSET | Member | ➢ To proliferate the various grant information among the various faculties |
| | | 4 | Prof. Komal Borisagar Asso. Professor, GTU-GSET | Member | ➢ To plan/organize skill enhancement programs for the faculties and students |
| | | | Prof Seema Joshi Asst Professor, GTU-GSET | Member | |
| 8 | TechFest, Cultural and Sport Promotion Committee | 1 | Prof. Deepak Upadhyay Asst. Professor, GTU-GSET | Coordinator | ➢ The formation of the various student clubs (Technical and Non-Technical) |
| | | 2 | Prof. Rutika Ghariya Asst. Professor, GTU-GSET | Member | ➢ The committee aims to promote co-curricular and extra-curricular activities in the Institute ➢ To promote the sport culture and to organize the sports event in the Institute |
| | | 3 | Prof. Mridul Seth Asst. Professor, GTU-GSET | Member | ➢ Mentorship support to various student club ➢ Encourage students for participation in various events |

| | | | | |
|---|---|---|---|---|
| | **Research, Consultancy & Publications Committee** | 1 | Prof. Raj Hakani Asst. Professor, GTU-GSET | Member | |
| | | 2 | Prof. Hemal Nayak Asst. Professor, GTU-GSET | Member | |
| 9 | **Institute Newsletter Committee** | 1 | Prof. S. D. Panchal Professor & Director, GTU-GSET | | ➢ To publish the Institute newsletter quarterly<br>➢ Data collection and selection for to publish in the newsletter |
| | | 2 | Prof. Rutika Ghariya Asst. Professor, GTU-GSET | | |
| | | 3 | Prof. Gautam Makwana Asso. Professor, GTU-GSET | | |
| | | 4 | Prof. Mahesh Panchal Asst. Professor, GTU-GSET | | |
| | | 5 | Shri Ranchhodbhai Khambhala Librarian, GTU-GSET | | |
| 10 | **Institute Store and Purchase Committee** | 1 | Prof Seema Joshi Asst Professor, GTU-GSET | Coordinator (Purchase) | ➢ To look in the Institute purchase matters Necessary approvals and bill passing process Estate related development and maintenance related work<br>➢ Dead stock/Consumable register update<br>➢ Lekawada Campus Planning |
| | | 2 | Prof Gautam Makwana Asso. Professor GTU-GSET | Coordinator (New Campus) | |
| | | 3 | Komal Prajapati Lab Assistant, GTU-GSET | Member | |
| | | 4 | PI / Co-PI / Concern Faculty | Invitee | |
| 11 | **Industry and Outreach Committee** | | Prof Gautam Makwana Asso. Professor GTU-GSET | Coordinator | ➢ The Committee will be responsible for to organize Industry visit, Placement Fair, Open House events, Form Industry advisory board for each Programs<br>➢ Pre-placement activities |
| | | | Prof Mahesh Panchal Asst Professor, GTU-GSET | Member | |
| | | | Prof Seema Joshi Asst Professor, GTU-GSET | Member | |

| 12 | ICT & Estate Committee | 1 | Prof Mahesh Panchal Asst. Professor GTU-GSET | Coordinator | ➤ ICT Planning and Execution monitoring Liaison with University IT and Estat Department |
| --- | --- | --- | --- | --- | --- |
| | | 2 | Prof Deepak Upadhyay Asst Professor, GTU-GSET | Member | ➤ Overall Institute ambiance monitoring ➤ Institute website update and monitoring ➤ Social Media |
| | | 3 | Prof Mridul Seth Asst Professor, GTU-GSET | Member | |
| | | 4 | Shri Harishbhai Vaghela Class-3, GTU-GSET | Member | |
| 13 | Skill Enhancement Program Committee | 1 | Prof. S. D. Panchal Professor & Director, GTU-GSET | Chairperson | ➤ The planning of skill enhancement programs and monitoring ➤ Expert Talk/ Seminar/ Workshop/FDP etc planning and monitoring ➤ To start professional student chapters |
| | | 2 | Prof Mahesh Panchal Asst. Professor GTU-GSET | Member | |
| | | 3 | Prof Deepak Upadhyay Asst Professor, GTU-GSET | Member | |
| | | 4 | Prof Mridul Seth Asst Professor, GTU-GSET | Member | |
| | | 5 | Prof Margam Suthar Asst Professor, GTU-GSET | Member | |

## 5. GTU- GSET Student Section Details

Students are main stake holders of the GTU-GSET. The objectives of the student section are to assist various activities of the institute namely, reporting, enrollment, anti-ragging, student grievance, mentoring, scholarships, student affairs, maintenance of records, and certifications from the institute and the University. All daily routine activities of the students are to be carry-out by the section. It is an attempt to create a platform to minimize load on the students.

Following accomplishments are to be carry out by the section.

- To Joining report with required documents after an admission
- To enrol with the Gujarat Technological University (GTU)
- To sign Anti-ragging affidavits; as per AICTE rules and regulations, available @ https://set.gtu.ac.in./wp-content/uploads/2020/09/AICTE-Ragging.pdf
- To issue Student I-cards
- To issue Library cards
- To collect of semester receipts
- To issue various academic certificates
- To assist students in scholarship schemes, National Scholarship Portal, Mukhyamantri Yuva Swavalamban Yojna (MYSY), AICTE, UGC, Digital Gujarat Portal (OBC, ST, SC etc) as per government rules. For further information, visit https://set.gtu.ac.in/scholarship
- To certify concessional pass from ST/BRTS/AMTS/ Railway public transport services.
- To assist in student grievance and student affairs
- To assist for endorsements/certifications for various academic requirements.
- To distribute mark sheet, NAMO e-Tablet to the students.
- To circulate various notice regarding student activities.

For further information, visit : https://set.gtu.ac.in./student-corner/

### Contact:

Ms. Aditi Darji, Admin Assistant
Email : gset_ss@gtu.edu.in

### Section In-charge

Prof. (Dr.) Gautam D. Makwana
Email : asso_gautam_makwana@gtu.edu.in

GTU-GSET is determinant to provide facilities to students of a vast ocean of knowledge for the high tech human life, easy and anywhere accessible knowledge for their development.GTU-GSET has been given one remote centre tofacilitate ME students and supervisor.

➢ **Facilities:**

- E-LIBRARYhas been established at the GTU-GSETto help in research to all stakeholders of institute.

- E-LIBRARY provides facilityies for GSET students to access E-journals, E-Book's, and other E-resources at their convenience to enable the advancement of knowledge and discovery with no cost to students.

- E-LIBRARY - is well equipped with computer systems and Internet connection to access E-resources. Students can also access GTU'S repository to gain the ideas about different projects, dissertation, Ph.D. thesis etc.

- Availability of E-Resource/Other Resources/Free EBooks.

➢ **Accessible Repositories of GTU to GSET students**

- **ALCE Presentation**
o Active Learning Creating Excitement (ALCE) TAB contains available Engineering Brach wise -subject wise material (in PPT format)

- **IPR/Patent**
o IPR TAB gives guidance for patent related activity

- **ALVCOM**
o TAB provides NPTEL Videos link for viewing and learning purpose

- **E-Project/E- Thesis/ E-Dissertation**
o To improve novelty of research and innovation through students it is desirable to benchmark prior art and particularly efforts being taken before.

o More than 30000 projects/ thesis are being submitted to university as a part of academic requirements in UG/PG/other levels. To ensure that the new batch of students either take new projects or to carry forward semi-finished projects.

o All past projects need to be publicly shared for students. Through E resources GIC has shared more than 75000 projects/ thesis in public domain in categorized format at porjects.gtu.ac.in for the reference and benefits of student efforts.

o This helps to check duplication and improve originality of student innovations every year. It also helps co-creation among different groups who are doing complementary or supplementary projects.

o The platform enables to pool variety of stakeholders like faculty members, students and domain experts to take the projects end to end. This digital platform helps in building efficiency of entire innovation value chain around student projects in university.

## Access Norms

- While entering the library except laptops, readers are not allowed to carry their personal belongings (bags, brief-cases, parcels etc.) and eatable items (biscuits, cookies, fruits, chocolates, cold drinks, tea/coffee, etc.). Their belongings should be deposited at the security counter.

- Always carry your library membership card when you visit the library, failing so will forbid your entry to library.

- Readers should maintain peace in the library and should not disturb other users in any way.

- Loud discussions are allowed only in the discussion area.

- Library's computing facilities and database access is meant for GSET faculty members, students, staff and registered library members only.

- The computer terminals are to be used only for searching of GSET resources.

- Users of the library should note that all e-resources subscribed are licensed materials and cannot be shared with outside community as it may lead to copyright/license violation.

- Library's photocopying services is fee based.

**Contact:**
Mr. Ranchhodbhai Khambhala
Librarian
Email :gset_library@gtu.edu.in

**Section In-charge**
Prof. (Dr.) Komal R. Borisagar
Email :asso_komal_borisagar@gtu.edu.in

### Academic Planning

- The whole academic term will be divided into two teaching phase i.e. Teaching phase-I and Teaching Phase-II and academic calendar along with theory/practical session time-table is circulated by academic section accordingly.
- Each student has to strictly follow it.
- Faculties/Students must be enrolled in LMS (Learning Management System) for their all teaching endowments.
- Each faculty course coordinator will declare the course lesson planning with session details on GTU-GSET Course website/LMS portal
- Students can view his/her academic progress through LMS login only
- The Overall academic term will be planned as below

|  | Teaching Phase-I (In between the term) | Teaching Phase-II (At the end of the term) |
|---|---|---|
| Course having Theory/Practical Components | • Student Attendance review-I*<br>• Course Progress Review-I<br>• Continuous Evaluation -I (CE-I)- 30 Marks (consisting of 20 marks theory and 10 marks assignment) | • Student Attendance review-II*<br>• Course Progress Review-II<br>• Continuous Evaluation II (CE-II) – 30 Marks (consisting of 20 marks theory and 10 marks assignment) |
| IR-I (Semester-3) | Internal review-I (A): 40 Marks | Internal review-I (B): 60 Marks |
| IR-II (Semester-4) | Internal review-II(A): 40 Marks | Internal review-II(B): 60 Marks |

\* Attendance needs to be ensure as per University norms, to grant the term

### Evaluation Methodology

| Theory | | Practical | | Total |
|---|---|---|---|---|
| ESE(E) | PA(M) | ESE (V) | PA(I) | |
| 70# | 30* | 30# | 20* | 150 |

*Internal component, #external component, ESE-End Semester Exam, PA-Progressive Assessment

| Internal component* and evaluation methodology | | |
|---|---|---|
| Course Evaluation | PA(M): 30 | Average marks obtained in Continuous Evaluation-I and Continuous Evaluation-II |
| | PA(I): 20 | Total marks obtained in practical sessions will be converted into 20 marks (10 practical*10 mark each = 100 marks/5) |
| IR -I (Sem-3) | IR1 (A) +IR1 (B) - Rubrics based evaluation | |
| IR -II (Sem-4) | IR2 (A) +IR2 (B) - Rubrics based evaluation | |

# 8. GTU-GSET Common Amenities

➢ **Shree Aryabhatt Seminar Hall**

On campus very high quality seminar hall is available to carry out different curricular and extracurricular activities with the best ICT facility.

➢ **Swami Vivekanand Conference Hall**

To carry out technical short term programs, expert session, staff and student development program, expert session exclusive conference hall is available with advance audio-visual facilities.

➢ **Dispensary on Campus**

In any health related issues or emergence in the campus doctor is available during 11.00 am to 2.00 pm at university main building to take care of all the stakeholders of university.

(Location    : GTU main building: C wing – ground floor;

Coordinator : Dr. Sanjay Joshi)

➢ **Major Dyanchand Gymnasium**

To enrich health and fitness and create healthy environment on campus one gymnasium with latest instruments has been provided and managed by GTU sports section. All students can go for daily workout.

(Location    : Boys Hostel: Ground Floor;

Coordinator : Dr.Akash Gohil)

➢ **Girls – Boys Hostel**

On campus highly secured two separate building of girls and boys hostels are available for hostel with good quality of food service. Infrastructure of the hostel is very luxurious with excellent studying environment.

(Location    : On Campus-Boys Hostel;

Coordinator : Prof. Deepak Uppadyay )

(Location    : On Campus-Girlss Hostel;

Coordinator : Prof. Seema Joshi)

➢ **Computer Centre**

High configuration computers are available. Students can carried out their advance research on the prominent and fast technology compatible systems. To compete recent software demand extra laboratory has been developed.

➢ **Super Computer Research Lab**

Most powerful and speedy super computer is existed at the GTU-GSET. Students can do high profile and real time research with the help of super computer in the field of network security and mobile communication.

## 9. GTU-GSET Faculty Details

| Sr. No. | Faculty Name | Designation | Qualification | Exp . | Area of Research |
|---|---|---|---|---|---|
| 1 | Prof. S.D. Panchal | Professor and Director | Ph.D. | 21 | Image Processing and Network Security |
| 2 | Prof. S.K. Hadia | Associate Professor | Ph.D. | 22 | Wireless Communication, Data Communication, IoT |
| 3 | Prof.G.D. Makwana | Associate Professor | Ph.D. | 19 | Machine Learing, IoT, 5G Technology, RF and Antenna |
| 4 | Prof. K.R.Borisagar | Associate Professor | Ph.D. | 17 | Wireless Communication, Data Communication, IoT |
| 5 | Prof. S.B.Joshi | Assistant Professor | M.Tech. (CSIR), Ph.D. (Pursuing) | 11 | Cloud Security, Blockchain Technology, Malware Analysis |
| 6 | Prof. Mahesh Panchal | Assistant Professor | ME (CE), Ph.D. (Pursuing) | 15 | Artificial Intelligence, Blockchain Technology, Machine Learning |
| 7 | Prof. Deepak Upadyay | Assistant Professor | ME(IT), Ph.D. (Pursuing) | 7 | Cyber Security, Machine Learning , IoT |
| 8 | Prof. Margam Suthar | Assistant Professor | ME(EC) | 7 | Wireless Communication, Data Communication |
| 10 | Prof. Hemal Nayak | Assistant Professor | ME(EC), Ph.D. (Pursuing) | 6 | Networking, Adhoc Network and IoT |
| 9 | Prof. Vagmin Joshi | Assistant Professor | ME(EC) | 8 | Digital Dersign, VLSI, IoT |
| 11 | Prof. Raj Hakani | Assistant Professor | ME(EC), Ph.D. (Pursuing) | 6 | Robotics, RF and Antenna Desing |
| 12 | Prof. Rutika Ghariya | Assistant Professor | ME (EC) | 6 | Optimization and Antenna Design |