GOVERNMENT ENGINEERING COLLEGE
GANDHINAGAR
कर्ममय ज्ञान एव ज्ञानमय कर्म

INSTRUMENTATION AND CONTROL DEPARTMENT

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New Trends In Technology

MINDSPARK

JUNE 2019 TO DECEMBER 2019

GOVERNMENT ENGINEERING COLLEGE, SECTOR 28, GANDHINAGAR

✳ About The Institute

Established in 2004, Government Engineering College, Gandhinagar (GEC-Gn) takes pride in its highly motivated students. Our students are life-long assets that help this institute to continuously evolve and work towards its Vision. Approved by AICTE. The College is administrated by Directorate of Technical Education, Gujarat State, Gandhinagar. GEC Gn is affiliated to Gujarat Technological University. GEC-Gn offers its students a wide range of courses to choose from. This helps them to become multi-skilled personalities who can handle the challenges that industry and society will pose before them as future engineers. Committed, to deliver excellence in everything that it does, our institute works towards reducing the gap between industry and education. GEC-Gn endeavors to educate its students in a manner that offers them an opportunity not only to excel in academics but to be completely aware of their future industrial needs for professional expertise through innovative and flexible curriculum.

Vision

To be a premier engineering institution, imparting quality education for innovative solutions relevant to society and environment.

Mission

- To develop human potential to its fullest extent so that intellectual and innovative engineers can emerge in a wide range of professions.
- To advance knowledge and educate students in engineering and other areas of scholarship that will best serve the nation and the world in future.
- To produce quality engineers, entrepreneurs and leaders to meet the present and future needs of society as well as environment.

INSTRUMENTATION & CONTROL DEPARTMENT

✱ About The Department

Department of Instrumentation & Control Engineering is well posed to cater the needs of the course. It is equipped with well-developed laboratories to satisfy the course curriculum of various subjects related especially to the Measurement & Automation. Instrumentation & Control Engineering Department started with inception of the college in 2004. Presently department offers undergraduate course B.E.(Instrumentation & Control). The under graduate course is recognized by AICTE (All India Council for Technical Education).

A wide range of opportunities are available in both commercial and industrial sectors covering processing, manufacturing, energy supply, mining, electronics, communications, IT, computer systems , defense-related industries, etc.

We aim at producing talented instrumentation and control specialists who cater to the needs of the industries. Quality teaching, with overall personality development of the students, is the motto of the department.

Vision

To impart quality education in Instrumentation & Control engineering through innovation to meet technological challenges of industries and society with environmental consideration.

MISSION

- To impart knowledge about present trends in the field of Instrumentation& Control engineering.
- To train competent Instrumentation& Control engineers who can design, operate process instrumentation and also manufacturing an automation systems in industries.
- To encourage students to work on innovative research projects related to Instrumentation & Control engineering considering environmental aspect.

Program Education Objective statements (PEO)

PEO-I	To operate and maintain industrial Instrumentation & Control system.
PEO-II	To design Industrial Instrumentation & Control system by innovative approach.
PEO-III	To inculcate professional and ethical attitude, effective communication skills, multidisciplinary approach and an ability to relate Engineering issues in social and environmental context.
PEO-IV	To acquire the ability for life-long learning needed for a successful Professional career.

Program Specific Outcome (PSO)

PSO1	Design and develop solutions for process control and automation industries and able to pursue career in research, industry, higher studies and adapt to changing technology.
PSO2	Able to understand professional and ethical responsibility with effective communication skills and life-long learning.

✳ Departmental Information

STUDENT INTAKE: 150

Students are admitted through ACPC on the bases of merit after 12th. From this year, the student intake has been increased from 120 to 150 for new academic session.

FACULTY DETAILS:

Sr. No.	Name of Faculty	Designation	Qualification	Experience (In Years)	
1	Dr. S. A. Rankawat	Associate Professor (Head of The Department)	PhD	25	
2	Dr. D. H. Shah	Associate Professor	PhD	21	
3	Prof. A. D. Rathod	Associate Professor	ME (IC)	18	
4	Prof. M. B. Hingu	Assistant Professor	M.TECH. SYSCON- IITB	22 Teaching 01 Industry	
5	Prof. I. U. Ajmeri	Assistant Professor	ME (IC)	22	
6	Prof. K. C. Dave	Assistant Professor	ME (IC)	11	
7	Prof. K. K. Acharya	Assistant Professor	ME (IC)	20	
8	Dr. K. B. Pathak	Assistant Professor	PhD	15	
9	Prof. K. S. Vashishtha	Assistant Professor	ME (IC)	10	

10	Prof. N. V. Patel	Assistant Professor	ME (IC)	07 Teaching 05 Industry	
11	Prof. P. N. Patel	Assistant Professor	ME (IC)	6	
12	Prof. R. S. Rana	Assistant Professor	M.TECH (IC)	4	
13	Prof. R. L. Zadfiya	Assistant Professor	M.TECH (IC)	10	
14	Prof. A. N. Bokade	Assistant Professor	ME (IC)	15	
15	Prof. J. J. shah	Assistant Professor	ME (IC)	4	
16	Prof. C. B. Panchal	Assistant Professor (Contractual)	ME (IC)	4 Yrs. Teaching 5 Yrs. Industry	
17	Prof. J. B. Maheta	Assistant Professor	BE (IC)	7 Yrs. Teaching 5 Yrs. Industry	
18	Prof. R. B. Gadhiya	Assistant Professor	ME (IC)	11 Yrs. Teaching	
Non-Teaching Staff Detail:					
19	Miss N.J. Makwana	Lab Assistant	BE(IC)	5	

✳ Facilities in the Department:

Department has 4 class-rooms, 19 faculty cabins, 7 Laboratories and 1 Research lab

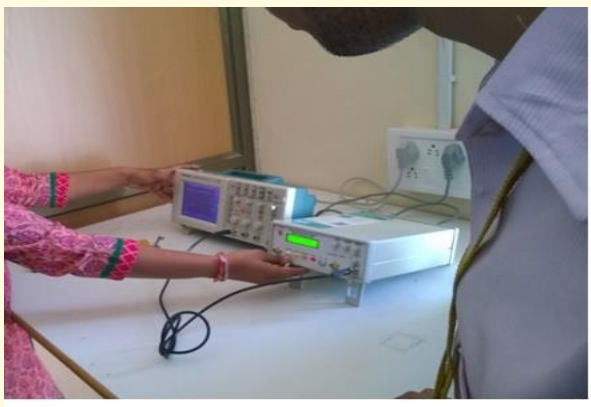
Process Control Lab

Power Electronics Lab

Measurement Lab

Microcontroller Lab

Communication Lab



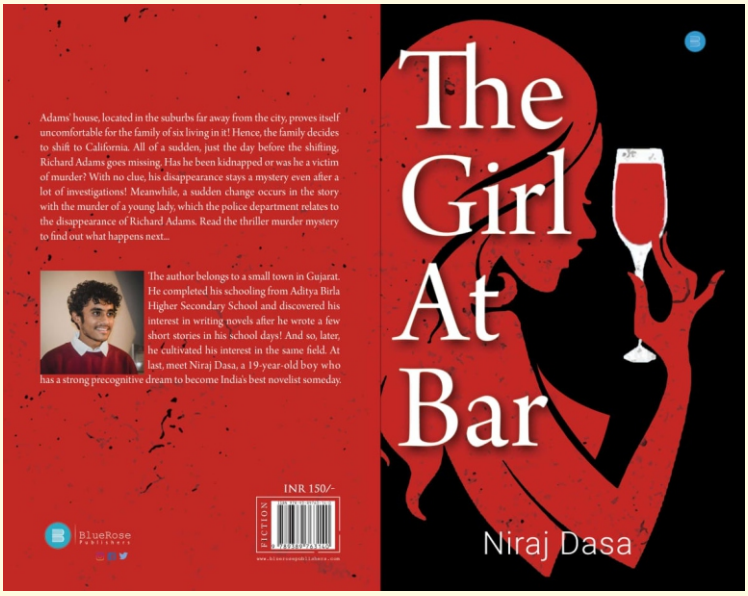
Computer center 1 & 2

FACULTY CORNER

- **Prof. Ravindra B. Gadhiya** attended two weeks FDP on 'Machine Learning in the area of pattern recognition and computer vison' from 16-09-2019 to 28-09-2019 at MKSSS'S Cummins collage of engineering for women.
- **Prof. Kalpesh B. Pathak** has completed PHD in August 2019.
- **Prof. Ravindra S. Rana** attended two weeks Induction Program (IP-1) from 24-06-2019 to 05-07-2019 at NITTTR, Ahemdabad.
- **Prof. Amar D. Rathod, Prof. Kalpesh B. Pathak, Prof. Keerti S. Vashishtha, Prof. Jheel J. Shah** and **Prof. Jiten B. Maheta** from IC department attended FDP on "Machine learning, Data science and Deep learning with Python" organized by Computer engineering department at GEC Gandhinagar from 10-06-2019 to 21-06-2019. It was sponsored & Approved by CTE, DST and GUJCOST.
- **Prof. Mukesh B. Hingu** attended one week FDP on 'Nano Technology and Nano Materials' at NITTTR, Bhopal from 04-11-2019 to 8-11-2019.

STUDENT'S CORNER

- **Our student Niraj M. Dasa from 4th semester, has published a book 'The Girl At Bar', Blue Rose Publication, dated 17-12-2019**



- **Our 4th semester students, Prajapati Ayesa And Parin Patel have secured third position in Blind Art Wave, organised at Indus University.**

I.S.A. Student Chapter

- **Under ISA student chapter, an industrial visit has been organised, at Anand Dairy, situated at Mogar Anand on 06-08-2019.**

Academic Activities Organized in the Department

1. Expert talk with Hands on session on "Industrial automation using Embedded system, PLC and DCS" by Possible Automation Solutions, Rajkot dated 17-07-2019.

2. Expert talk on Career Guidance on UPSC Examinations by Career Guidance Academy, Ahmedabad dated 30-07-2019.

3. Sensitization lecture on SSIP projects conducted by Prof. K.K. Acharaya in Dept. Of Instrumentation and Control on 02-08-2019.

4. FS Training Component 1&2 (Life Skills and Employability Skills) conducted during 05-09-2019 to 14-09-2019 at GEC, Gandhinagar.

5. Expert talk on "Network protocols for Distributed Control System" conducted by Prof. B.V. Budhadev, HOD CE/IT, GEC, Gandhinagar.

✱ Induction Program For 1st Year Students

The goal of engineering education is to train engineering graduates well in branch of admission, have a holistic personality and must have desire to serve society and nation. It is expected that an engineering graduate work for solving the problems of society using the modern technologies and practices. That needs the broad understanding of the society and relationships. It is needed to cultivate the human values in engineering graduates to fulfil his responsibilities as an engineer, a citizen and a human being.

Considering the various social backgrounds and whether a student comes from the urban or rural areas they differ in many of the life skills and their abilities and thinking. There branch of admission may be due to rush; their interest in subject is question. They are facing the issues like hostel and settlements, pressures from peers and many related issues. To overcome such issues, it is necessary to create an environment for students so that they feel comfortable, find their interest and explore their inner beings, create bonding with other students, establish relation with teachers, work for excellence, get a broader view of life and practice human values to build characters. The Induction Program covers the various activities which enables them to overcome all such issues and motivates them to perform well in their chosen branch of admission.

Following activities have been performed during induction program :-

1. Session by Prof. M B Hingu on “7 Secrets of Successful People” 25.07.2019 (10.30-11.30).

2. Session by Prof. K B Pathak on “Discover Immense Talent within Us” 26.07.2019 (10.30-11.30).

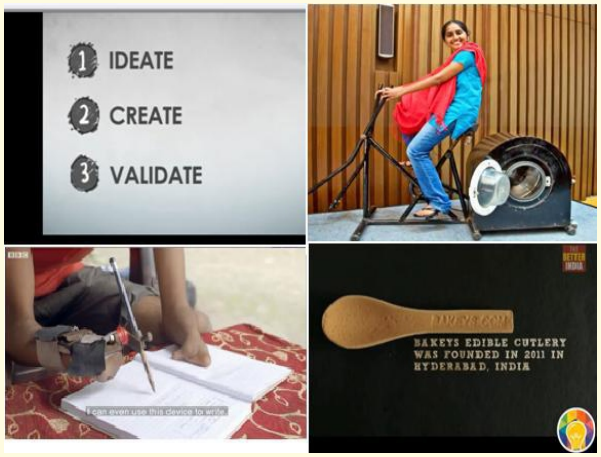
3. Session by Mr. Sharad Raval, BAPS, Akshardham on "Human Values" 02.08.2019 (10.30-11.30).

4. Session by Prof. K C Dave on "Institutional Laws" 02.08.2019 (11.30-12.30).

5. Session by Prof. K K Acharya on "Innovation & Start up schemes by Government" 02.08.2019 (1.00-3.00).

6. PROFICIENCY MODULE by Prof. N V Patel & Prof. R B Gadhiya 05.08.2019 (10.30 - 5.00).

7. Videos shared by Prof. N V Patel on "Examples of innovative products & technology".



8. Industrial visit to Circuitronix, GIDC, Sec-25, Gandhinagar 06.08.2019.

Approx. 93 students with 2 faculties visited Circuitronix, Gandhinagar as a part of local area / industry visit. It is PCB design and PCB manufacturing company. Knowledge of PCB types, its uses, process of design & manufacturing was given in well manner.

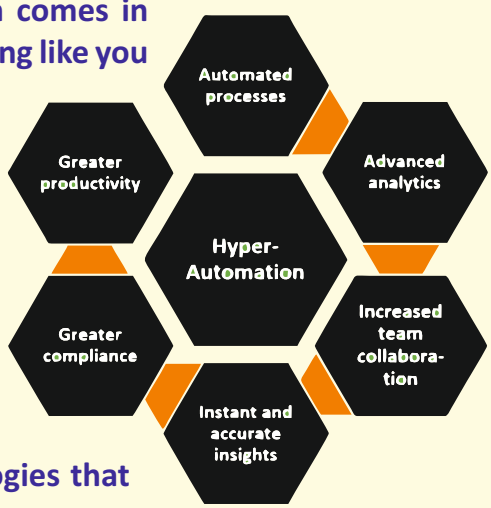
TRENDING TECHNOLOGY

✳ HYPER AUTOMATION! A NEW HYPE

In today's life, technology is advancing everyday to Greater Heights. You all would have came across the term Automation but now a days automation is also endangered as it is being replaced by a new term known as hyper automation.

What is hyper automation? and how is it different from regular automation?

The answer is here, when the term automation comes in your mind you think of process automation. It is something like you create a new device which you can use for automatic processing like RPA(ROBOT PROCESS AUTOMATION). According to Gartner, hyper automation deals with the application of Advanced Technologies including artificial intelligence and machine learning to increasing process automation. It extends across a range of tools that can be automated but also refers to the sophistication of automation.



Speaking in a quite understandable manner hyper automation is a mixture of automation Technologies that exist to augment and expand human capabilities.

But why hyper automation? What will be the benefits of it ?

The benefit of hyper automation is that it will allow your work force to be educated with the latest business and market information so that they can perform their roles optimally.

Rather than being bogged down by low-level work and monotonous task, your work force will remain engaged with their jobs to resolve problem and provide Creative Solutions.

Thus hyper automation is not taking the jobs away, but it is using automatic technologies in existing and human skills for better and Creative Solutions to the problems existing in society as well as industries.

Typical Example of hyper automation is digital twin of an organisation. It is a concept about creating digital representation of connected iot devices managed by a single tool and instead of giving access to different IoT device. Digital twin can be presented to stakeholders. It helps in predictive analysis of organisation, asset leading to efficient functioning of business. With this concept, business can eliminate the problems before it occur, to prevent failures. They are designed to work constantly and continuously. The data collected in this process is analysed continuously and saved in cloud. This results in accessing data instantly for various business analysis it also enables users to resolve issue from any remote location.

In a very short span of time, expansion of hyper automation has inspired company to eradicate manual operations quickly, to use man force in other important areas of business. So if you have not entered this, then you are definitely missing out an opportunity of expanding your business.

ICE

We Control The World

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Thank You