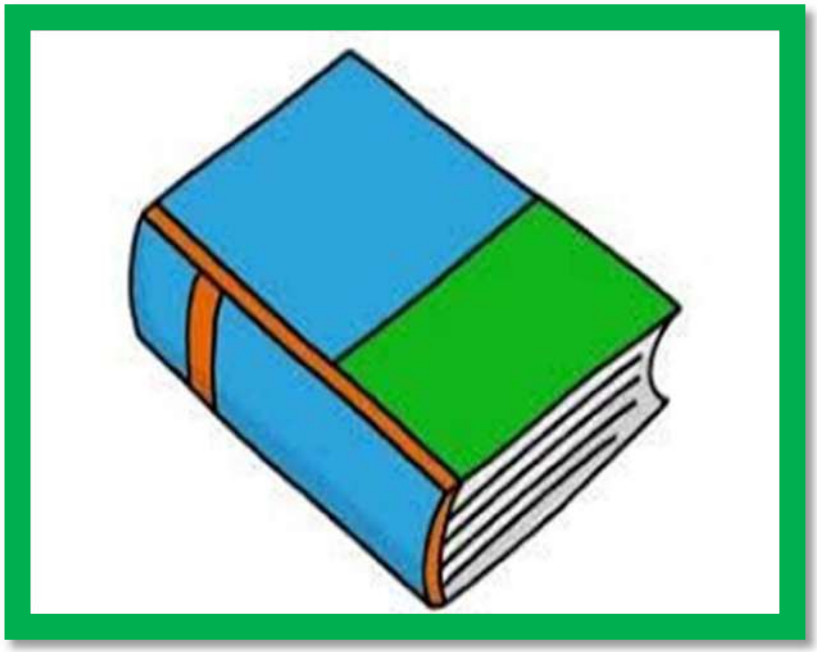
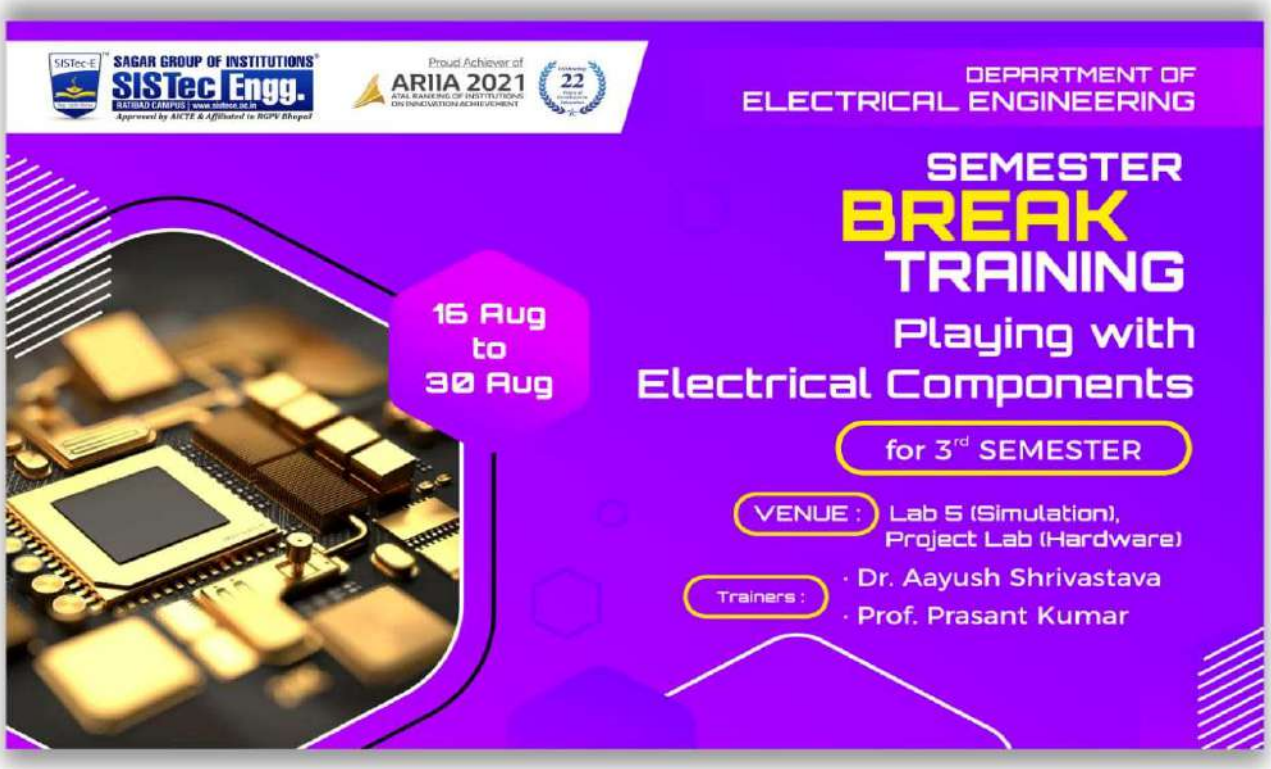


SESSION JULY-DEC 2022

SEMESTER BREAK TRAINING ON PLAYING WITH ELECTRICAL COMPONENTS

Department of Electrical Engineering has organized Semester Break Training "Playing with Electrical Components" for 3rd semester students by inhouse trainers Dr. Aayush Shrivastava and Prof. Prasant Kumar from 16th Aug to 30th Aug 2022.

- How to set "GOAL".
- Familiar with Electrical and Electronics Components.
- Explanation of Various measuring instrument.
- How to write a Application letter & professional mail.
- Fundamental Laws based on Projects.
- Project Making from crash.
- Project Exhibition in EE Department.



SEMESTER BREAK TRAINING ON IOT & ITS APPLICATION

Course Content of the session will be as follows:

- Demonstrate the understanding of micro Python programming, ESP32 and use GPIO as simple input / output.
- Apply ADC, Interrupt, PWM to develop IoT applications
- Develop IoT applications using LAN
- Develop IoT applications using various cloud platforms (WAN)
- Introduction to TS and Create Thing Speak Account
- Introduction to Talkback, Create a TalkBack "LED CONTROL" – Command "LEDON"

INDUSTRIAL VISIT

- The Department of Electrical Engineering of SISTec Ratibad has successfully organized Industrial Training in Sagar Manufacturers Pvt. Ltd. (#SMPL) for 5th semester students on 09 August 2022.

The purpose of this industrial visit was to give a platform where students can realize similarities between class learning and industrial applications. Students gained knowledge about the Yarn Manufacturing process, the role of Electrical Engineers in textile plant, working and controlling of different highly advanced machines and drives.

As students shared their experience about this educational trip “it was a wonderful experience to see real engineering and experience why engineers are the backbone of our society”.

- The Department of Electrical Engineering, SISTec-Ratibad, conducted an Industrial visit to NITTTR - Siemens Centre of Excellence in Digitalization & Industry 4.0, Bhopal, to get the students acquainted with the concept of Industry 4.0, to make them industry ready and get familiarized with latest advancements in the technology.

  The students visited various lab facilities and their respective resources like Product Design and Validation lab, Manufacturing process Digitalization lab, Simulation, Optimisation and Test lab, IOT lab, CNC Control lab, Industrial Automation lab, Process Instrumentation lab, Electrical and Energy Studies lab, Mechatronics lab, Robotic lab and additive Manufacturing lab

  The Visit was fruitful for the students as they got exposed to the latest industrial developments and got familiarized with the concept of Industry 4.0. Students.

  Visit Coordinators:
  1. Prof.Prashant Kumar
  2. Prof. Subinoy Roy
  3. Prof. Rohit Fanish Jain
  4. Prof. Kavita Kushwah
  5. Mr. Vinod Kapse.

ELECTRICAL ENGINEERING

GURU POORNIMA CELEBRATION BY FELICITATING THEIR MENTORS

गुरुर्ब्रह्मा ग्रुरुर्विष्णुः गुरुर्देवो महेश्वरः । गुरुः साक्षात् परं ब्रह्म तस्मै श्री गुरवे नमः ॥

Gratitude is a powerful catalyst for happiness. It is a spark that lights the fire of joy in our soul. The students of Electrical engineering Department have felicitated their mentors by giving a token of gratitude who has been delivered wonderful training on trending technologies in past days.

1. Prof. Anuj pal sir was felicitated for giving training on Data structure using C programming.
2. Dr. Aayush Shrivastava sir was felicitated for giving training on Python Programming.
3. Prof. Alok Ranjan sir was felicitated for giving training on IoT & It's application.

EXPERT LECTURE

SISTec-E Ratibad Department of Electrical Engineering under the banner of Institutional innovation Cell (IIC) is going to organize a Workshop on "Entrepreneurship Day Celebration: Roadmap of Entrepreneurship" on 30th Aug 2022. The session will be taken by an Expert Dr. Ramesh Khare, Chairman , DSW.

PARIKALPANA 2K22 (IDEATHON-2K22): ENGINEERS' DAY CONGRATULATIONS

Sagar Group of Institutions - SISTec Ratibad celebrated Engineers' Day with an Ideathon titled "Parikalpana 2022", jointly organized by the Departments of Civil and Electrical Engineering.

Guest of Honor, Dr. Sunil Kumar Gupta (Vice Chancellor, RGPV Bhopal) inaugurated the ideathon in presence of Keynote Speakers Mrs. Pooja Kumar (Founder and Director of Innove Intellects LLP) and Dr. Kiran Talele (Professor, CFO, and Incharge of Innovation, SPTBI, Mumbai). Also present during the inaugural ceremony were jury members for the day: Dr. Ramesh Khare (Chairman, DSW, Mumbai); Mr. Manish Parulkar (Incubation Manager, AIC-Prestige Inspire Foundation); Mr. Ravi Kumar Patel (Program Manager, AIC-Prestige Inspire Foundation); and Mr. Sankalp Shrivastava (Consultant at Ernst and Young).

This ideathon was designed to provide a platform for budding technocrats to diagnose predefined problems and ideate the most viable solution. The ideathon included startup pitching sessions by 125 teams across India offering solutions on trending topics such as Robotics, Agriculture, the Internet of Things, Artificial Intelligence, Machine Learning, Digitalization, Smart Manufacturing, Green Building, Smart Grid, Renewable Energy, Sustainable Development, and Power Converter Solutions.

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PROJECT EXHIBITION

Department of Electrical Engineering SISTec, Ratibad has Organised Project Exhibition on 17/12/2022. in this event, our first year students has made projects from scrap and explain them with enthusiasm. the projects was evaluate by the judges on three basis:

1. Innovation
2. Demonstration
3. Creativity.

The whole program was successfully conducted in the presence of Dr. Manish Billore, Principal, SISTec, Ratibad. He has patiently listened and observer the creativity and innovation of First year student in their projects. he also gave some tips to the students.

ELECTRICAL ENGINEERING

STUDENTS ACHIEVMNETS

- **NODAL LEVEL KARATE CHAMPIONSHIP:** A moment of immense pride for the electrical engineering department to have received such laurels. The students were felicitated in the morning assembly.
  - ✓ **MR. SARUN : GOLD MEDAL**
  - ✓ **MR. VIVEK PANDRAM: GOLD MEDAL**
  - ✓ **MR. VIJAY UIKEY: GOLD MEDAL**
  - ✓ **MS. KAMALNAINA SHRIVASTATVA: GOLD MEDAL**

- **SELECTION FOR NATIONAL LEVELS KABADDI**: A moment of immense pride for electrical engineering department that our students **Ms. Swati** has qualified for National Levels of Kabaddi.

HEARTIEST CONGRATULATIONS TO HOD SIR

Heartiest Congratulations to Mr. Ashish Singhal (Associate Professor and Head of SISTec Ratibad Department of Electrical Engineering) for being invited as Technical Chair in the IEEE International Conference on Interdisciplinary Approaches in Technology and Management for Social Innovation (IATMSI-2022) "Track 2: Power, Control, Energy and Intelligent Transportation Technologies" organized by Atal Bihari Vajpayee Indian Institute of Information Technology and Management (ABV-IIITM), Gwalior.

CELEBRATION OF "NATIONAL ENERGY CONSERVATION DAY" UNDER THE THEME OF "CONSERVE TO PRESERVE"

The Department of Electrical Engineering, Sagar Group of Institutions - SISTec Ratibad celebrated "National Energy Conservation Day" on the theme of "Conserve to Preserve" under the flagship of Solar Energy Society of India (SESI) and Institutional Innovation Cell (IIC).

Princi-PAL SISTec Ratibad, Dr. Manish Billore welcomed the Chief Guest of the program, Dr. Savita Vyas, Director of the School of Energy, Environment and Management, University of Teaching Department, RGPV, Bhopal, working in the field of energy conservation.

The event flagged off with pledge taking ceremony headed by the President of the Student Activity Council Ms. Samiksha Sahu. It continued on with a poster exhibition. The chief guest was overwhelmed with the students' enthusiasm, creativity, and the messages presented on the posters. The best three posters were announced as winners by the head of the Electrical Engineering department Prof. Ashish Singhal.

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- **FRESHER'S PARTY "नवीन-ऊर्जा (NEW ENERGY)" FOR BATCH 2K26**

The Department of Electrical Engineering, Sagar Group of Institutions - SISTec Ratibad organized its much-awaited Fresher's Party "नवीन-ऊर्जा (New Energy)". Dressed in traditional and western attires, the students embraced the stage with a series of interactive games, musical-lyrical performances, and ramp-walk, introducing themselves and connecting with the theme of interaction and expression. Mr. Saurabh Dangi & Ms. Rupali Bobade from 1st Year and Mr. Dheeraj Mandrai & Ms. Manvi Bisen from 2nd year were declared Mr. and Ms. Freshers respectively.

HEARTIEST CONGRATULATIONS FOR NPTEL CERTIFICATION

- Five students from 5th semester have successfully completed the National Programme on Technology Enhanced Learning (NPTEL Course) by IIT Roorkee on " Electrical Distribution System Analysis", with two of them got the Elite Certification under the guidance of Prof. Kavita Kushwah, who was done FDP Certification in the same course.

विद्या ददाति विनयम्
NPTEL Online Certification

SAGAR GROUP OF INSTITUT
SISTec

ELECTRICAL ENGINEERING

- Two students from 5th semester have successfully completed the National Programme on Technology Enhanced Learning (NPTEL Course) by IIT Kharagpur on "Programming In Java", with ELITE+SILVER Certification.

Elite

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

UMESH KUMAR YADUWANSHI

for successfully completing the course

Programming in Java

with a consolidated score of 78 %

Online Assignments	24.94/25	Programming Assignment	25/25	Proctored Exam	28.5/50

Total number of candidates certified in this course: 6899

Jul-Oct 2022

(12 week course)

Prof. Debjani Chakraborty
Coordinator, NPTEL
IIT Kharagpur

Indian Institute of Technology Kharagpur

swayam

Roll No: NOC22CS102S63610725 To validate and check scores: https://nptel.ac.in/noc No. of credits recommended: 3 or 4

Elite

NPTEL Online Certification

(Funded by the MoE, Govt. of India)

This certificate is awarded to

VISHAL KUMAR KHAKRE

for successfully completing the course

Programming in Java

with a consolidated score of 80 %

Online Assignments	24.72/25	Programming Assignment	25/25	Proctored Exam	30.67/50

Total number of candidates certified in this course: 6899

Jul-Oct 2022

(12 week course)

Prof. Debjani Chakraborty
Coordinator, NPTEL
IIT Kharagpur

Indian Institute of Technology Kharagpur

swayam

Roll No: NPTEL22CS102S63610750 To validate the certificate No. of credits recommended: 3 or 4

- Eight students from 3rd semester have successfully completed the National Programme on

ELECTRICAL ENGINEERING

Technology Enhanced Learning (NPTEL Course) by IIT Kharagpur on "Fundamentals of Electrical Engineering", with one of them got the Elite Certification under the guidance of Prof. Prasant Kumar.

INNOVATIVE PROJECTS UNDER IOT & DROEN MODULE

❖ PROJECT NAME: SMART DOOR LOCK

TEAM LEADER: Akshay Chouskey

TEAM MEMBERS: 1. Raghvendra Thakur 2. Krishnpal Ahirwar 3. Kajal 4. Yash Chouskey

ABOUT: Security plays major role in today's life; the Smart Door Lock mainly deals with security. Here we make use of IoT Technology and NodeMCU8266. This is a type of electronic lock that can be controlled and accessed remotely using Web server or a smartphone. It uses wireless technology, such as Wi-Fi to connect to the internet and user can grant access to the lock to authorized individuals, such as family members or friends, by clicking "ON/OFF' on the webserver or smartphone app. It allows easy management of access rights and monitoring of who enters and exits the building or residence. Smart door lock also typically includes features such as automatic locking and unlocking and integration with other smart home devices. Overall, smart door lock provides increased security and convenience compared to traditional mechanical locks.

❖ **PROJECT NAME: SMART HOME LIGHTNING SYSTEM**

TEAM LEADER: Umesh Yaduwanshi

TEAM MEMBERS: 1. Kuldeep Mohabe 2. Astha Pandole 3. Arihant Jain 4. Vishal Kumar

ABOUT: The main objective of this project is to develop a home automation system using an Esp32 board being remotely controlled by any Android OS smartphone. As technology is advancing so houses are also getting smarter. Modern houses are gradually shifting from conventional switches to centralized control system, involving remote controlled switches. Presently, conventional wall switches located in different parts of the house make it difficult for the user to go near the to operate. Even more it becomes more difficult for the elderly or physically handicapped People to so. Remote controlled home automation system provides a most modern solution with smartphones. In order to achieve this, Wi-Fi module is in build in the ESP32 board at the Receiver end while on the transmitted end. ESP Rain maker application on the cell phone sends ON/OFF commands to the receiver where loads are connected. By touching the specified switches on the ESP Rain maker, the loads can be turned ON/OFF remotely through this technology, this software also will connect with voice-controlled application like Goggle Home & Amazon Alexa, by this software we also send command with this.

- **PROJECT NAME: DIGITAL NOTICE BOARD**

TEAM LEADER: Laxmi Marko

TEAM MEMBERS: 1. Mahima Tekam 2. Nikita Belwanshi 3. Divya Bagahe

ABOUT: This project consists of electronic notice board that is controlled by an android device and displays message on it. Notice board is a primary thing in any institution/organization or public utility places like bus stations, railway stations and parks. But sticking various notices day-to-day is a difficult process. The Notice board is a common display for effective mode of providing information to the people, but this is not easy for updating the messages instantly. Traditionally, there were notice boards where any information or notice had to be stick daily. This traditional way is tedious and requires daily maintenance. To overcome this problem by introducing an electronic display notice board interfaced to an android device through Bluetooth connectivity. The Bluetooth receives the message from the android device that is sent to an Arduino. This project deals about an advanced Hi-Tech wireless Notice Board. This system is enhanced to display the latest information through an Android application of smart phones or tablet.

- **PROJECT NAME: IOT BASED FIRE & SMOKE ALARM SYSTEM**
  TEAM LEADER: Ayush Dhurve
  TEAM MEMBERS: 1. Jaideep 2. Ajay Dhurve 3. Gopi Kumar 4. Rupesh

  ABOUT: A fire alarm system is number of devices working together to detect and warn people through visual and audio appliances when smoke, fire, carbon monoxide or other emergencies are present. Here we make use of IoT Technology. This is a type of fire or smoke sensing system that can be controlled and accessed remotely using Web server or a smartphone. It uses wireless technology, such as WiFi to connect to the internet and user can grant access, such as family members or friends, by clicking "ON/OFF' on the webserver or smartphone app. It allows easy management of access rights and monitoring of where is the firing burning. A typical smoke detector is designed to intersect smoke particles. When smoke particles interfere with the path of light to the sensor, the sensor circuit sequential sets up an alarm irrespective of what caused the smoke.

- **PROJECT NAME: IOT BASED HEALTH MONITORING SYSTEM**
  TEAM LEADER: Hemant Uikey
  TEAM MEMBERS: 1. Sandeep Uikey 2. Khushal Mandrah 3. Rajkanya Pandram

ABOUT: An IoT-based patient health monitoring system is a system that utilizes Internet of Things (IoT) technology to remotely monitor and track the health status of patients. The system is composed Arduino and sensors that track vital signs such as heart rate, blood pressure, body temperature and oxygen levels, which are transmitted to the display in real-time. this device also allows for remote access by healthcare professionals, enabling them to monitor the patient's health status and make adjustments to their treatment plan as needed. This system also allows for real-time alerts to be sent to healthcare professionals in case of any emergency or critical changes in patient's health status. The IoT-based patient health monitoring system is a cost-effective, efficient and secure way to keep track of patient's health status.

- **PROJECT NAME: IOT BASED WASTE MANAGEMENT FOR SMART CITIES**
  TEAM LEADER: Ravi Dangi
  TEAM MEMBERS: 1. Abhishek Dangi 2. Manish Lodhi 3. Kamlnaina

ABOUT: In the present day scenario, many times we see that the garbage bins or Dust bin are placed at public places in the cities are overflowing due to increase in the waste every day. It creates unhygienic condition for the people and creates bad smell around the surroundings this leads in spreading some deadly diseases & human illness, to avoid such a situation we are planning to design "IoT Based Waste Management for Smart Cities". In this proposed System there are multiple dustbins located throughout the city or the Campus, these dustbins are provided with low cost embedded device which helps in tracking the level of the garbage bins and an unique ID will be provided for every dustbin in the city so that it is easy to identify which garbage bin is full. When the level reaches the threshold limit, the device will transmit the level along with the unique ID provided. These details can be accessed by the concern authorities from their place with the help of Internet and an immediate action can be made to clean the dustbins.

- **PROJECT NAME: IOT BASED IRRIGATION SYSTEM**
  TEAM LEADER: Arsheen
  TEAM MEMBERS: 1. Deepak 2. Sarun 3. Shivam

  ABOUT: The IoT-based irrigation system is a technologically advanced solution for managing water usage in agriculture. It leverages the Internet of Things (IoT) technology to monitor soil moisture levels, PIR motion, temperature & humidity and other environmental factors in real-time, and adjusts the irrigation process accordingly. This results in a more efficient use of water, leading to lower costs and improved crop yields. The system is also highly flexible and can be remotely monitored and controlled through a mobile app or web-based interface, making it an ideal choice for farmers who need to manage their irrigation processes from afar. With its advanced features and capabilities, the IoT-based irrigation system is poised to revolutionize the way that water is managed in agriculture.

❖ **PROJECT NAME: RC PLANE RADIO-CONTROLLED AIRCRAFT**
TEAM: 5th semester students

ABOUT: A radio-controlled aircraft (often called RC aircraft or RC plane) is a small flying machine that is controlled remotely by an operator on the ground using a hand-held radio transmitter. The transmitter continuously communicates with a receiver within the craft that sends signals to servomechanisms (servos) which move the control surfaces based on the position of joysticks on the transmitter. The control surfaces, in turn, directly affect the orientation of the plane.