Vision of ECE Department

To produce skilled, socially –sensitized and globally competitive professional engineering graduates in the area of Electronics and Communication Engineering.

Mission of ECE Department

1. To provide quality and contemporary education through innovative teaching-learning process and effective resource utilization.
2. To develop responsive and socially sensitive engineer through research oriented practices.
3. To promote industrial collaboration for providing practical exposure leading to industry ready engineering graduates.
4. To open new vistas of learning for students through international collaborations.
5. To provide conducive environment through pre placement training and professional development activities for providing ample opportunities of placements, higher studies and entrepreneurship.

Program Educational Objectives (PEOs)

PEO1: Analyze and solve real life problems using advanced scientific and engineering expertise.

PEO2: Exhibit contemporary and multidisciplinary knowledge as per industrial needs with an ability to work effectively in a team.

PEO3: Acquire sustainable technological development and handle related societal issues.

PEO4: Excel in professional career and engage in lifelong learning to nurture holistic development by imbibing ethics and human values.
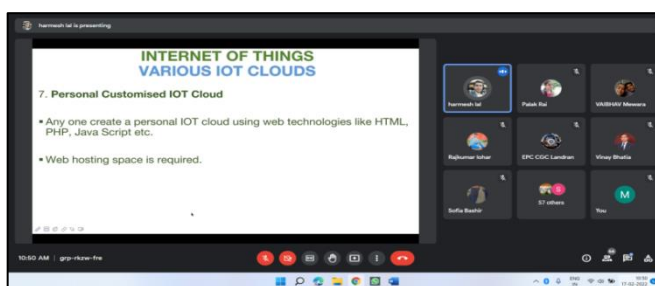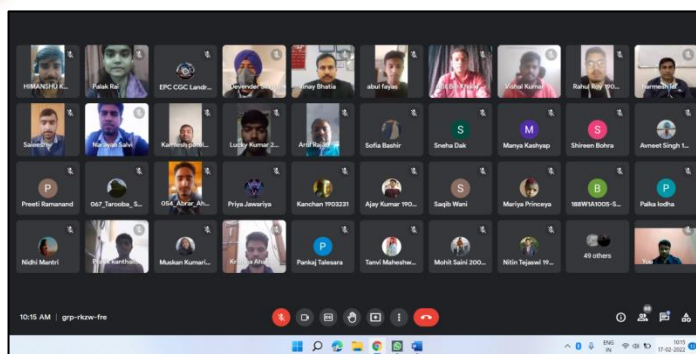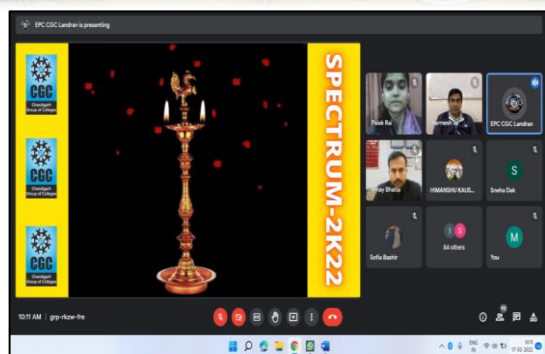
IoT Workshop organized by Electronics Project Club (EPC)& IETE on 17th February 2022.

EPC and IETE ,Department of Electronics and Communication organized IoT Workshop on 17 February 2022.The event was held on google meet and Mr. Harmesh Lal Head (R&D) : TCIL-IT Govt.of India Enterprise Chandigarh and Founder – Director :Embsoft Products Research & Development LLP ,Chandigarh was the speaker for the day. In this event the concept of IOT is developed to set up the communication with embedded electronic system through internet. Students learnt the monitoring of various sensors data, values and status from anywhere and devices or machines controlling from anywhere. They created a project using ESP8266 wifi module, Arduino, LED, buzzer on cloud. Various topics like Uses of IOT in industry , monitoring of various sensors data, values and status from anywhere,Things required to setup IOT, IOT Hardware, IOT cloud,Features required in IOT hardware ,IOT hardware (raspberry pi, simple link wifi CC3200 launch pad, ESP8266 wifi module, node MCU module, ESP32),Various IOT clouds(AWS-IOT core, IBM Watson IOT, Microsoft Azure IOT, Thing speak IOT, Blynk IOT mobile app, Cayenne IOT cloud, personal customized IOT cloud) and IOT Application development were covered in the workshop. Total count of online participation was 84 and offline participation was 49. Through this workshop participants learnt how embedded system works on cloud for controlling from anywhere.

Spectrum 2K22 organised on 17th February 2022

On 17th February EPC and IETE , Department of Electronics and Communication organized two events on the occasion of SPECTRUM namely Epic Presenters(Ideathon) and What's the fix (Error Debugging). Epic Presenters (Ideathon) was conducted on google meet. The event was about innovations. An innovative idea was presented by participants in front of jury. This event consists of Two Rounds:

Round-1: Verbal presentation of the innovative idea by participants ,time limit two minutes.

Round-2: Power Point Presentation of the innovative idea by participants ,time limit maximum five minutes.

In this event participants (individual or team) have to present their ideas to the jury. There were total 22 teams out of which 7 teams from CGC and 15 teams from outside CGC. Judges for the event was Ms. LakhwinderKaur , Ms. JagdeepKaur , Ms. RamanpreetKaur and Ms. GagandeepKaur.
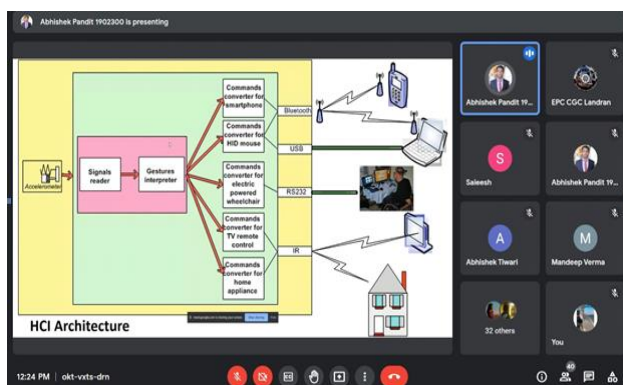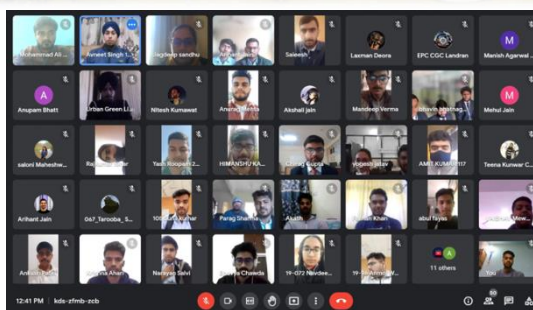
Following were the winners

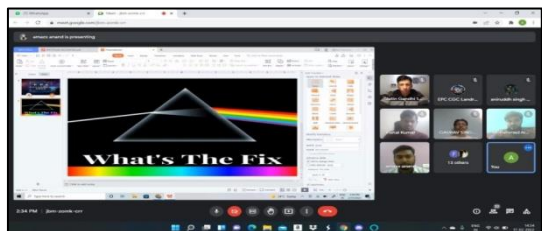| RANK	Team Name	Branch/College	Semester
1	Team Solace	Diploma ECE (Indo Swiss Training Centre-CSIO)	5th
2	Imbrute	B.Tech CSE (CEC Landran)	4th
3	Worker Khojo	B.Tech CSE (Geetanjali Institute Of Technical Studies)	6th

2nd event What's the fix was conducted from 2:30pm-4:00pm On Hacker-rank and Google meet.This event is designed to check the programming skills of all the geeks.Where we have assigned certain problem to the participants and they will have to solve it with their coding skills.In this event we have checked the coding accuracy and efficiency of the geeks. Registrations from the college was 46 and outside college was 104.

Following were the winners

RANK	Team Name	Branch/College	Semester
1	Subham Kumar	B.Tech IT (CEC Landran)	6th
2	Aanchal Devi	Diploma (Seth Jai Prakash)	5th
3	Jatin Gandhi	B.Tech ECE (CEC Landran)	6th

The event was the great success under the guidance of Dr. Vinay Bhatia (HOD, ECE).
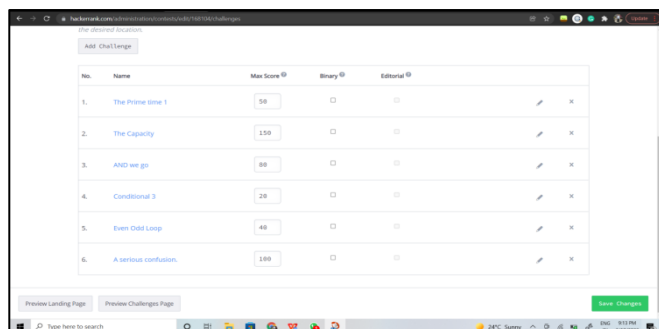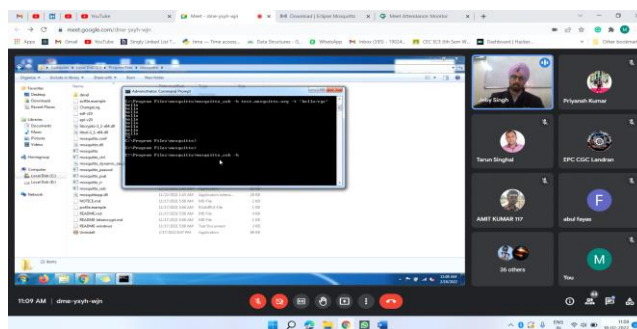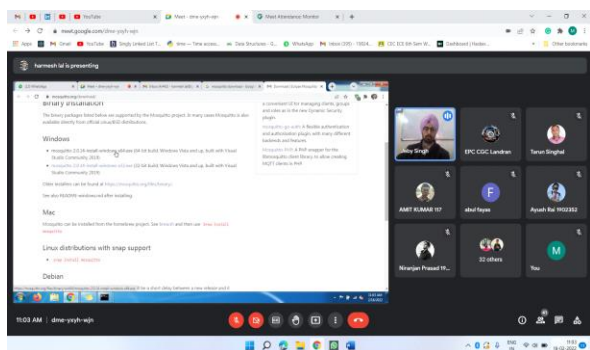
Guest Lecture on IoT Protocols and Applications on 18th February 2022

IETE & Electronics Project Club (EPC), Department of Electronics and Communication Engineering has organized Guest Lecture on IoT Protocols and Applications on 18 February 2022. The mode of event was on google meet from 10:00 -11:30 am. Mr.Jeby Singh, Project Head TCIL-IT Chandigarh was the speaker for the day. In this workshop students have learnt how to use MQTT protocols to connect with different servers so that we can send or receive the information from one device to the server. Topics covered were Introduction of IOT and Implementation of microcontroller and sensors using IOT. Total number of participants was 45 and through this event participants have learnt how embedded system works on cloud for controlling from anywhere.

TECHVIESTA organized on 18th February 2022

IETE & Electronics Project Club (EPC), Department of Electronics and Communication Engineering has organized three events on the occasion of TECHVIESTAon 18 February 2022 namely Interbrains (Debate Competition) , Clip your Desire and RJ wars (open mic).

1st event i.e Interbrains (Debate Competition) was conducted on google meet from 10:00am – 11:45am. Interbrains was a debate competition with the raised motion of "IS INDIA READY FOR 5G?" Participants were supposed to speak against and favor of the motion. After the points competition of any particular Participant. He/ She has to face rebuttal on his/ her points.

The conclusion drawn from the discussion of rebuttals and views of debates in the house was that, "INDIA IS YET NOT READY FOR 5G."

Winners

RANK	Team Name	Branch/College	Semester
1	Shantanu	B.Tech CSE (CEC, Landran)	4th
2	Rahul	B.Tech CSE(CEC, Landran)	6th
3	Muskan Kumari	B.Tech ECE(CEC, Landran)	6th

2nd event Clip your Desire was also conducted on google meet from 2:30pm-3:30pm. Total number of participants was 32. Clip your desire is an event organized by Electronics project club under the department of electronics and communication engineering. This event is an excellent opportunity for all the students to showcase their interpersonal skills, confidence, and knowledge. How they convey their ideas to others and entertain. It provides an opportunity to lighten up the mood and get refreshed. In this event Participants have to make a short video clip (1 – 1:30 seconds) on any non-technical topic like environmental issues, climate change, economy, social issues etc .There are E-certificates for all the participants and Winners will get cash prizes , hard copy certificates and social media recognition.
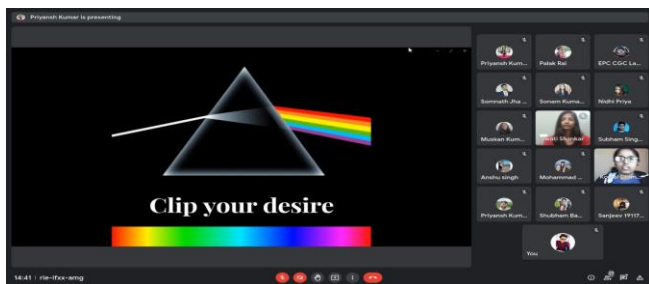
Winners –

RANK	Team Name	Branch/College	Semester
1	Sanjeev	Pharmacy (CCP, Landran)	6th
2	Mohd. Ali	B.Tech ECE(CEC, Landran)	6th
3	Muskan Kumari	B.Tech ECE(CEC, Landran)	6th

3rd event was RJ- WARS (Open Mic Competition) and the mode of conduct was google meet.It was conducted from 11:30pm-1:30pm . In this event Participants have to act like RJ's and entertain their audience through their performance in a creative and innovative way on Google meet using any language as per their convenience (Hindi, English, or Punjabi). They can use any means to entertain be it shayari or poem or standup comedy, whatever suits them. There were total 6 participants.

Winners

RANK	Team Name	Branch/College	Semester
1	Rashid Hussain	B.Tech ECE(CEC, Landran)	6th
2	Kunal Verma	Pharmacy (CCP, Landran)	6th
3	Mohd Ali	B.Tech ECE(CEC, Landran)	6th

Project-e-Mania 2k22" was organized on 15th March 2022

Electronics Project Club (EPC) and Institute of Electronics and Telecommunication Engineers (IETE), Department of Electronics and Communication Engineering has organized an event "Project-e-Mania 2k22" on 15th March 2022. Project exhibition was about innovations and ideas were presented by the participants to the jury members in the form of projects. There were total 23 teams participated from ECE department.This Event has provided a fair chance to every team to showcase their innovative ideas through verbally as well as with the help of presentation.

Faculty Co-Ordinator– Dr. TarunSinghal, Dr. AnkurSinghal, Dr. Deepak Dadhwal

Judges - Dr. BhawnaTandon, Dr. Rinkesh Mittal, Dr. SukhdeepKaur

Student Co-Ordinator– Tania Goyal, Sunder, Subham Singh

Total number of Participants – 81

Through this event students have learnt to work in a team and present their ideas effectively and efficiently in front of the judges.

Winners

RANK	Team Name	Branch/College	Semester
1	Team Mind-ink-bots	B.TechECE (CEC Landran)	6th
2	Team Phoenix	B.TechECE (CEC Landran)	6th
3	Team Phoenix 2.O	B.TechECE (CEC Landran)	6th
4	Team Alfa	B.TechECE (CEC Landran)	4th
5	Team Zaz	B.TechECE (CEC Landran)	4th

Workshop on Interacting Raspberry pi with wireless devices and IOT was organized on 24th-25th March 2022

A workshop on Interacting Raspberry pi with wireless devices and IOT was organized by ECE Department for 100 registered students. Resource Person for the workshop was Er. Rohit Khosla an IoT and Embedded System Design Expert, Cadence OrCAD PCB design developer, Android Designer, Power System Designer and System Design, Specialities in Embedded System, IoT and Robotics. He has experience of Embedded System and Automation System Development. He has experience in the field of IoT, IIOT and ML.

Students gained the knowledge on Rasperry Pi, IoT, Zigbee Wireless, IIOT. Some of the Queries which were asked by students were too cleared and guided by the speaker.

InTwo Days Workshop student learned how raspberry pi and Zigbee wireless devices work and how can we connect and work on the same networks.

From this great session, students learned about Raspberry pi, Zigbee Wireless Configuration, Sending wifi data to raspberry pi, connection of user in one signal network.

RECENT TRENDS: ADVANCED MATERIALS

The semiconductor industry has been reliant on silicon for decades, but there is a limit to how far you can etch, lithograph, and pattern a silicon material. As a result, innovation to increase the performance of integrated circuits is coming from new materials and architectures. Startups and scaleups are developing silicon alternatives and other semiconductor materials or composites such as graphene and nanomaterials for high performance and efficiency.

ODYSSEY SEMICONDUCTOR DEVELOPS GALLIUM NITRIDE (GAN) SEMICONDUCTOR MATERIAL

US-based startup Odyssey Semiconductor builds high-performance power switching gallium nitride (GaN) semiconductor material. Its GaN processing technology allows for the realization of vertical current conduction GaN devices which extend application voltages from 1,000 V to over 10,000V. In fact, It extends well beyond the consumer electronics application and into applications such as electric vehicles (EVs), industrial motor control, and energy grid applications.

WATER FRONT GRAPHENE PROVIDES GRAPHENE NANOCARBON MATERIALS

Japanese startup Water Front Graphene manufactures graphene nanocarbon materials for electronics fabrication. They are capable of manufacturing and selling graphene in an amount used for fabrication. Specifically, the applications include touch panels, conductive ink, 3D printing, supercapacitors, thermal materials, and semiconductors.

SCI/SCIE PUBLICATIONS

Many of our Faculty members have published research papers in SCI and SCIE Journals .

- Gagandeep kaur,“ "Monostatic Radar-Based Microwave Imaging of Breast Tumor Using an Ultra-wideband Dielectric Resonator Antenna (DRA) with a Sierpinski Fractal Defected Ground Structure"'', International Journal of MAPAN springer Nature.
- Gagandeep kaur, "C' shaped Dual Polarized Dielectric Resonator Antenna for the Microwave Imaging of Breast Tumor Using Beam-forming Algorithms" International Journal of International Journal of RF and Microwave Computer-Aided Engineering .
- Dr. Harbinder Singh, "A feature level image fusion for IR and visible image using mNMRA based segmentation", in international Journal of Neural Computing and Applications.
- Dr. Simarpreet Kaur," Performance Analysis of DP-QPSK with CO-OFDM using OSSB Generation" in International Journal of Wireless Networks.

PATENTS FROM ECE DEPARTMENT

- AUTOMATED MEDICATION DRIP MANAGEMENT SYSTEM
- ADJUSTABLE RESPIRATION ASSISTIVE DEVICE
- HOME SECURITY AND DOOR BELL ALERT SYSTEM
  .

FACULTY ACHIVEMENTS

- Priyanka Kamboj got 1st price amongst the faculty in Shotput on Athletic Meet organized in March 2022.
- Priyanka Sood got 3rd price in 100 mtrs girls faculty race on Athletic Meet organized in March 2022.

CHIEF EDITOR MESSAGE

This newsletter is intended to be published quarterly in a year. This inaugural issue is a brief account of the important events held from July to September 2021. It is expected that wide support for this mission will be provided through the reader's valuable suggestions and comments. This is only a small step towards a long journey. This issue of newsletter should inspire all of us for a new beginning enlighten with hope, confidence and faith in each other in the road ahead.

Chief Editor: Ms. Jagdeep Kaur
Student Editior :Mahima, Tarishi