



## Department of Electronics and Telecommunication Engineering

Sr. No./E&TC/ 32 / of 2022

Date: 28/04/2022

### Report on Technical seminar

➤ **Event:** Electronics and Telecommunication Engineering department organized an interactive technical seminar Applications of Electromagnetics, Application of Technology in Indian Armed Forces and Intelligent sensors and sensor solutions for industrial application on 15<sup>th</sup> April 2022 and 22<sup>nd</sup> April 2022 respectively.

➤ **Objectives:**

1. To have better understanding of concepts of Electromagnetics.
2. To get knowledge about the practical set up for different tests executed in Electromagnetics with more focus on reflections, absorptions, and transmissions part in Electromagnetics.
3. Understanding technology usage in military forces.
4. To update students on how the Industry 4.0 is helping in military forces.
5. To inform students about the sensors and their applications.
6. To make students aware about how sensor works in barcode scanner.

➤ **Schedule:**

The slots for the seminars

Sr. No.	Class	Date	Day	Timing	Venue
1	SE A & B	15/04/2022	Friday	2.00 pm to 4.00 pm	Online Platform
2	TE A & B	22/04/2022	Friday	11.00 am to 1.00 pm	Online Platform
3	BE A & B	15/04/2022	Friday	11.00 am to 1.00 pm	Online Platform

➤ **Speaker**

The speakers for the seminars

Sr. No.	Class	Speakers	Company	Designation	Topic
1	SE A & B	Dr. R Lenin Raja	AA Electro Magnetic Test Laboratory	Vice President	Applications of Electromagnetics
2	TE A & B	Mr. Jayesh Jani	SICK India Private Limited	Manager	Intelligent sensors and sensor solutions for industrial application
3	BE A & B	Com. Mukesh Bhargava	Former Member of the Board of Directors, L & T Defence	Commodore	Application of Technology in Indian Armed Forces



### ➤ **Event Details:**

- Technical seminars were conducted for SE, TE & BE E&TC students on zoom online platform. The speakers for the seminar are arranged by Confederation of Indian Industry (CII) Western region.
- The seminar topic for SE students was “Applications of Electromagnetics” conducted by Dr. Lenin Raja on 15th April 2022. Dr. Lenin started the session with basics of electromagnetics, then ranging towards applications sir explained few important topics required for it such as Radiated emissions, radiated susceptibility, skin effect and a few more. Dr. Lenin explained each concept with videos to get a better understanding on theoretical as well as practical level. The concept of the combination of rotation and orientation was taught to the students and how it is effective in study of electromagnetics. While explaining the applications part sir made students aware of equipment user test and the 3 main parameters for it which were reflections, absorption and transmissions Sir demonstrated all these parameters by showing some practical equipments. Later sir talked on Radiated susceptibility test and also clarified how its opposite to immunity test. Coming to applications part sir listed a lot of applications in fields like electromagnetics, shielding effects, etc. After giving brief explanation of the applications sir also gave a glance of the future scope for these applications and an overview of his R and D lab.
- On 22nd April 2021, a technical seminar was conducted on “Intelligent sensors and sensor solutions for industrial application” for TE E&TC students by Mr. Jayesh Jani. The session started off with giving the basic information about the field and broadcast portfolio in industry which has basically three parts which are factory automation is where all the manufacture work is done, logistic automation which is where transportation of good is done and process automation is where the things are carried out in certain steps to reach end product. The session was continued by teaching about the sensors and why we need it in the first place which is the first step to any stage in product development, a sensor is just a device is just hardware which converts signals to electrical signal which detects, identifies, measures, protects and integrates but the main part comes is the different logical solutions we need to use the sensors and that depends on the intelligence of a product to be built. Along with this he covered different types of Sensors which are photoelectric sensor which has laser as source and can detect anything like a metal, proximity sensors which can detect only metal but the sensing range is only 1mm to 30mm, capacitive sensor which can detect anything but air and has limited sensing range and works on a LC circuit, contrast sensor are primarily used in packaging and printing machines to detect print marks, but are also well-suited to any other application based on contrast and/or color differences. Further in the session, the principle of operation all sensors were covered. He also talked about the 3 different detection technologies which are energetic, background suppression and foreground suppression. Along with this what effect an object can have in a detection process was also discussed where the colour, surface, shape, object size and reflector type hinder the light going from sender to receiver. In this last part of the session, he talked about the industry 4.0 which has automation and data exchange in manufacturing technologies along with that an introduction to Bar Code Scanner where he introduced to the history of barcode, structure, operation principle and different types of barcode. The session concluded with a question answer segment where all the doubts were cleared.
- The topic for BE students was “Application of Technology in Indian Armed Forces” conducted by Commodore Mukesh Bhargava on 15th April 2022. Commodore Mukesh started with explaining the role of Indian economy in the transformation of India. He threw light on the issue that although India is among the best performing economies in the world,



it is still lagging in the manufacturing sector. He explained how adaptation of Industry 4.0 can boost the manufacturing sector, create high skilled jobs, as well as act as a driver to attain \$5 Trillion target in economy. He demonstrated that due to Make in India initiative, India jumped 79 positions from 142nd (2014) to 63rd (2019) in 'World Bank's Ease of Doing Business Ranking 2020. He explained how the transforming Indian economy can make it a global leader. He explained the evolution of industry standards from 1.0 to 4.0. He explained the reason Industry 4.0 is the needed to be implemented at a much faster pace. Industry 4.0 marries physical production and operations with smart digital technology, machine learning, and big data to create a more holistic and better-connected ecosystem that provide a unified database with high accuracy and improved productivity. He shared his experience regarding how L&T is implemented Industry 4.0. He briefed about L&T is involved in submarine and warship constructions, how they rectify the error in the digital model before moving to construction, the role of digital twin which is used to observe the operational simulations of the system. He informed students about the K9 Vajra-T, an artillery gun made by L&T in collaboration with Samsung Techwin (South Korea). He talked about the self-reliance achieved by India in the space industry. He discussed about the importance of using Indian Industry as a partner with ISRO rather than as a vendor. He concluded the webinar by elucidating the future initiatives of the Defence technology, iDEX initiatives and doubt solving session.

➤ **Participants:**

Students of Second, Third and Final year Engineering (E&TC).

➤ **Attendance Analysis:**

Sr. No.	Class	No. of Students	Participants	Attendance (%)
1	SE A & B	138	53+59 =112	81.15
2	TE A & B	136	58+49=107	78.68
3	BE A & B	147	42+51=93	63.26

(Annexure- Student's Attendance)

➤ **Staff Involved:**

Sr No	Name of Staff	Designation
1.	Dr. Payel Saha	HOD E&TC
2.	Ms. Rupali Mane	Process In charge
3.	Ms. Anvita Birje	SDP and Technical seminar coordinator
4.	Ms. Usha Gupta	Technical seminar coordinator

➤ **Feedback Analysis**

**SE E&TC Seminar on Topic:-** Applications of Electromagnetics, by Dr. R Lenin Raja

Date: 15/04/2022

No. of samples = 128



Laxmi Singh Charitable Trust's (Regd.)

**THAKUR COLLEGE OF ENGINEERING & TECHNOLOGY**

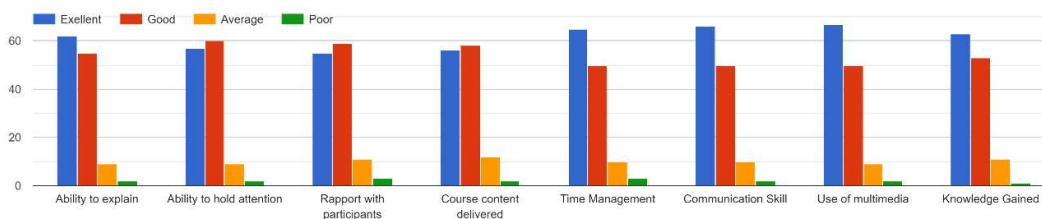
Autonomous College Affiliated to University of Mumbai  
Approved by All India Council for Technical Education (AICTE) and Government of Maharashtra (GoM)

Conferred Autonomous Status by University Grants Commission (UGC) for 10 years w.e.f. A.Y. 2019-20  
Amongst Top 200 Colleges in the Country, Ranked 195<sup>th</sup> in NIRF India Ranking 2019 in Engineering College category  
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Sr. No.	Parameter	Poor		Average		Good		Excellent	
		No. of Students	% Students	No. of Students	% Students	No. of Students	% Students	No. of Students	% Students
1	Ability to Explain	2	2	9	7	55	43	62	48
2	Ability to Hold Attention	2	2	9	7	60	47	57	45
3	Rapport with Participants	3	2	11	9	59	46	55	43
4	Course Content Delivered	2	2	12	9	58	45	56	44
5	Time Management	3	2	10	8	50	39	65	51
6	Communication Skills	2	2	10	8	50	39	66	52
7	Use of Multimedia	2	2	9	7	50	39	67	52
8	Knoweldge Gained	1	1	11	9	53	41	63	49

Parameter



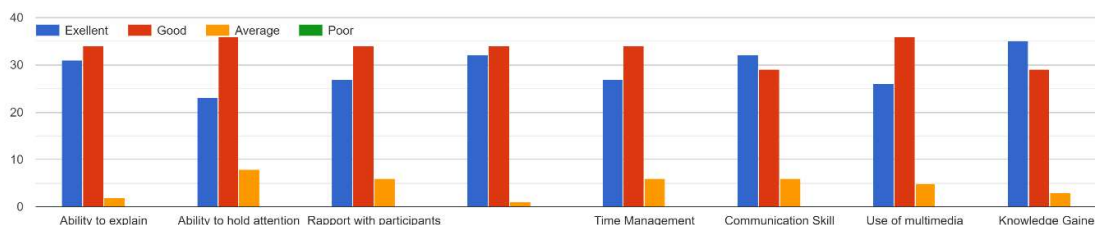
**TE E&TC Seminar on Topic: Intelligent sensors and sensor solutions for industrial application** by Mr. Jayesh Jani

Date: 22/04/2022

No. of samples = 67

Sr. No.	Parameter	Poor		Average		Good		Excellent	
		No. of Students	% Students	No. of Students	% Students	No. of Students	% Students	No. of Students	% Students
1	Ability to Explain	0	0	2	3	34	51	31	46
2	Ability to Hold Attention	0	0	8	12	36	54	23	34
3	Rapport with Participants	0	0	6	9	34	51	27	40
4	Course Content Delivered	0	0	1	1	34	51	32	48
5	Time Management	0	0	6	9	34	51	27	40
6	Communication Skills	0	0	6	9	29	43	32	48
7	Use of Multimedia	0	0	5	7	36	54	26	39
8	Knoweldge Gained	0	0	3	4	29	43	35	52

Parameter





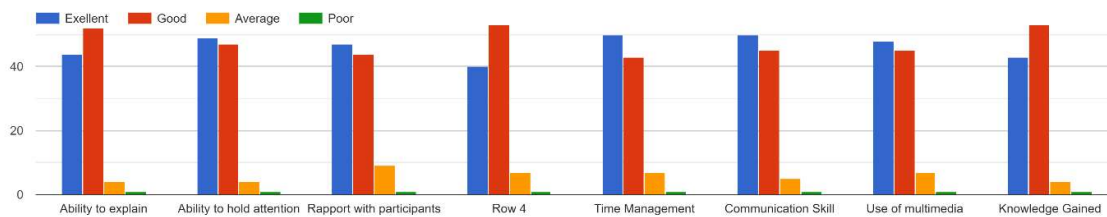
**BE E&TC Seminar on Topic: - Application of Technology in Indian Armed Forces, by Com. Mukesh Bhargava**

Date: 15/04/2022

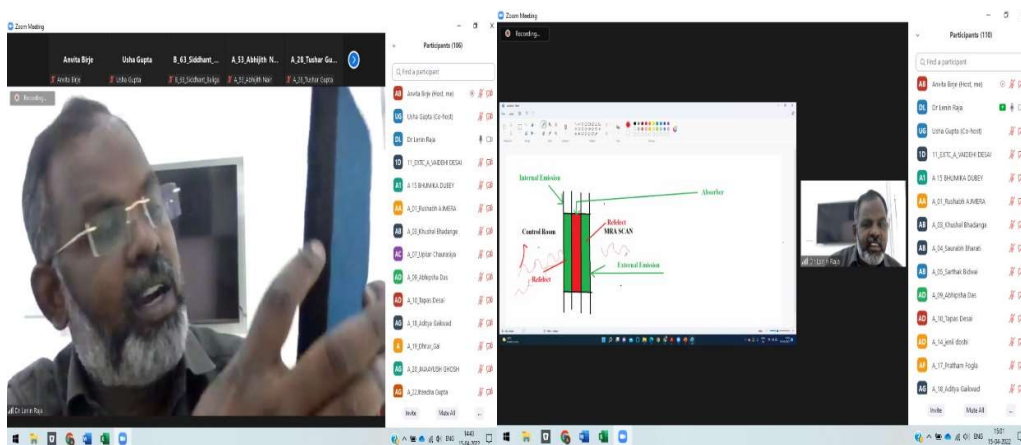
No. of samples = 101

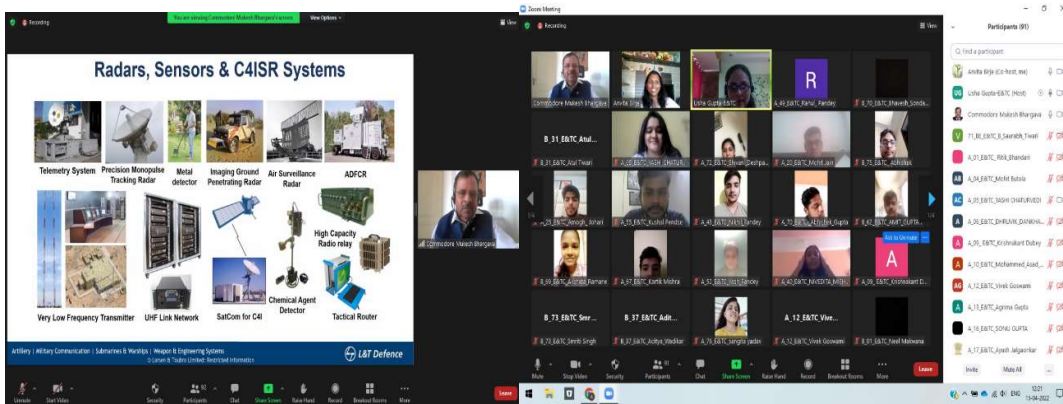
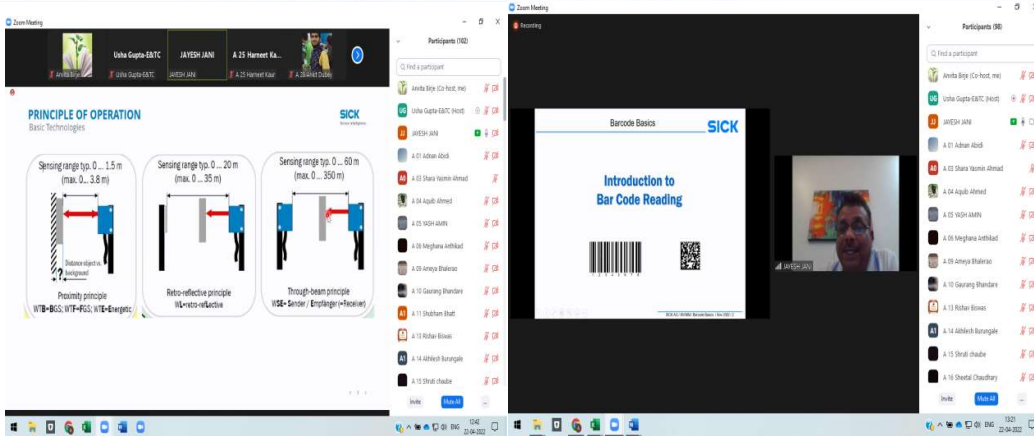
Sr. No.	Parameter	Poor		Average		Good		Excellent	
		No. of Students	% Students	No. of Students	% Students	No. of Students	% Students	No. of Students	% Students
1	Ability to Explain	1	1	4	4	52	51	44	44
2	Ability to Hold Attention	1	1	4	4	47	47	49	49
3	Rapport with Participants	1	1	9	9	44	44	47	47
4	Course Content Delivered	1	1	7	7	53	52	40	40
5	Time Management	1	1	7	7	43	43	50	50
6	Communication Skills	1	1	5	5	45	45	50	50
7	Use of Multimedia	1	1	7	7	45	45	48	48
8	Knowldge Gained	1	1	4	4	53	52	43	43

Parameter



➤ **Glimpses:**





➤ **Outcomes:**

1. Students were able to understand the concepts of electromagnetics and phenomenon like reflections, absorptions and transmission.
2. Students were able to comprehend the practical setup of different tests carried out in Electromagnetics.
3. Students were able to figure out the usage of technology in armed forces.
4. Students were able to understand that with industry 4.0, armed forces are becoming more technology driven.
5. Students were able update their knowledge on sensors and their different applications.
6. Students were able to understand applications of sensors in detail.

➤ **SWOT Analysis:**

Sr. No	Strength	Weakness	Opportunity	Threat
1	Arranged the technical seminars successfully as per the schedule  Established strong	Expected turnout of the students from final year class was less.	The knowledge gained can be used to understand processes thoroughly and can take projects in the same topic	Due to time limitation, detailed discussion on topics was not done as per expectation.



	professional relationship with speakers			
2	In online mode we can connect speakers from outside of Mumbai.	The online nature of the program made it challenging to establish a connect with the audience.	Webinars can be made more interactive using polls, quick chat and quiz	Internet Connectivity and unavailability of resources at participants end.

➤ **Scope for Improvement:**

With the changing trends and NBA requirement, such technical seminars should be regularly conducted for the students which could help in their overall development. Student's participation needs to increase.

➤ **Conclusion:**

The technical seminars were conducted on "Applications of Electromagnetics", "Intelligent sensors and sensor solutions for Industrial applications" and "Applications of Technology in Indian armed forces" successfully to make the students aware of the latest developments and explore opportunities in the industry and armed forces. These seminars were conducted for S.E, T.E and B.E students to provide opportunity to grow professionally as well as a technically. It was quite informative and beneficial to those who attended the same. Students gave good feedback about the speaker and the overall program.

Overall, all the sessions were excellent with the students learning something new about their field of interest.

<b>Prepared By:</b>	<b>Checked By:</b>	<b>Proposed by:</b>	<b>Reviewed By</b>	<b>Recommended by:</b>	<b>Approved by:</b>
Sd Mrs. Anvita Birje Ms.Usha Gupta <b>(Technical Seminar Coordinator)</b>	Sd Ms. Rupali Mane <b>(Process Incharge)</b>	Sd Dr.Payel Saha <b>(HOD E&amp;TC)</b>	Sd Dr. Lochan Jolly <b>Dean (SSW)</b>	Sd Dr.Kamal Shah <b>Vice Principal</b>	Sd Dr. B. K. Mishra <b>Principal</b>