

GOKHALE EDUCATION SOCIETY'S
R. H. SAPAT COLLEGE OF ENGINEERING, MANAGEMENT STUDIES AND RESEARCH

DEPARTMENT OF ELECTRONICS AND TELECOMMUNICATION ENGINEERING

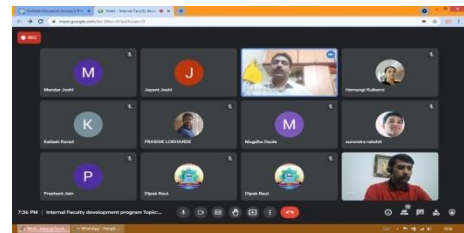
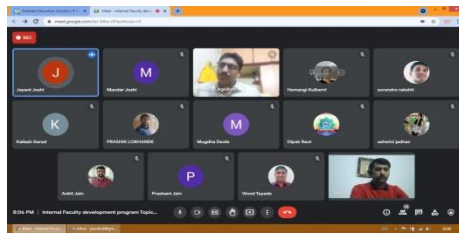
Technical Bulletin

❖ **Technical Activities:**

- Enormous efforts are taken with an objective to embed sound academic fundamentals among students to formulate, analyze and solve real life problems related to their domain and area of expertise.

▪ **Internal FDP on How to write technical research paper effectively**

Resource Person : Dr. J. G. Joshi, Lecturer in Electronics, Government Polytechnic, Nashik
No. of Participants : 9
Date : 28-07-2021
Coordinator : Mr. R. J. Shimpi



▪ **Internal FDP on Device Research Challenges in Nanoelectronics**

Resource Person : Dr. G. C. Patil, Assistant Professor, V.N.I.T., Nagpur
No. of Participants : 9
Date : 30-07-2021
Coordinator : Dr. A. A. Deshmukh



▪ **Internal FDP on Machine Learning for 5G Communication**

Resource Person : Dr. Vaibhav Hendre, Deputy Director, G H Rasoni COE & Mgt, Pune
No. of Participants : 28
Date : 09-08-2021
Coordinator : Mr. R. J. Shimpi



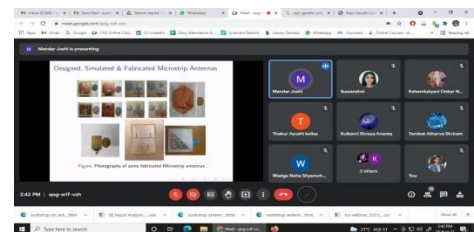
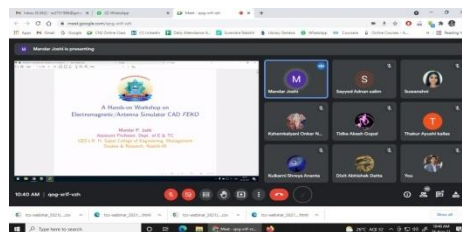
Internal FDP on A Dive into Some of the Research Areas and Engineering Applications

Resource Person : Dr. A. S. Deshpande, Assistant Professor, SPIT, Mumbai
 No. of Participants : 10
 Date : 10-08-2021
 Coordinator : Mr. R. J. Shimpi



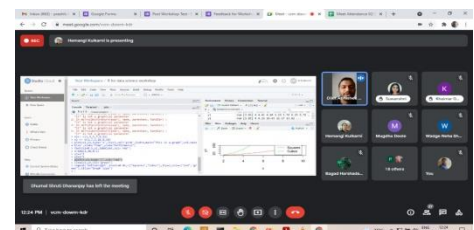
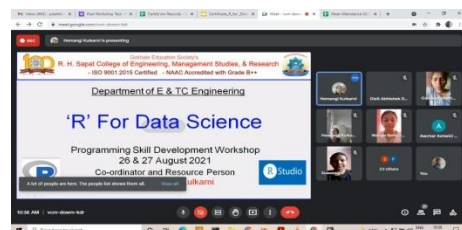
A Hands-on Workshop on Electromagnetic/Antenna Simulator CAD Feko

Resource Person : Mr. M. P. Joshi, Assistant Professor, GESRHSCOEMSR, Nashik
 : Mr. S. M. Rakshit, Assistant Professor, GESRHSCOEMSR, Nashik
 No. of Participants : 27
 Date : 23-08-2021 & 24-08-2021
 Coordinator : Mr. M. P. Joshi



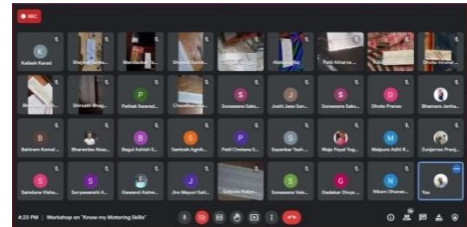
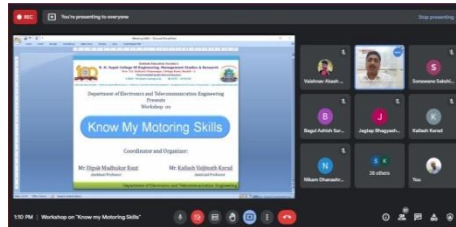
A Hands-on Workshop on R for Data Science

Resource Person : Mrs. H. H. Kulkarni, Assistant Professor, GESRHSCOEMSR, Nashik
 : Mr. P. D. Lokhande, Assistant Professor, GESRHSCOEMSR, Nashik
 No. of Participants : 28
 Date : 25-08-2021 & 26-08-2021
 Coordinator : Mrs. H. H. Kulkarni



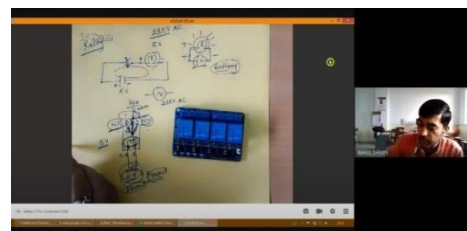
▪ **One Day Workshop on “To know my motoring skills”**

Resource Person : Mr. D. M. Raut, Assistant Professor, GESRHSCOEMSR, Nashik
 : Mr. K. V. Karad, Assistant Professor, GESRHSCOEMSR, Nashik
 No. of Participants : 35
 Date : 01-09-2021
 Coordinator : Mr. D. M. Raut



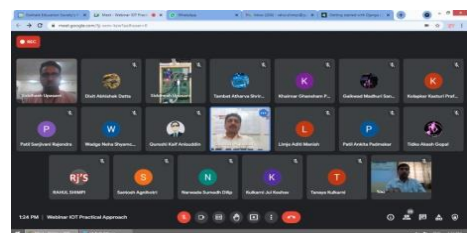
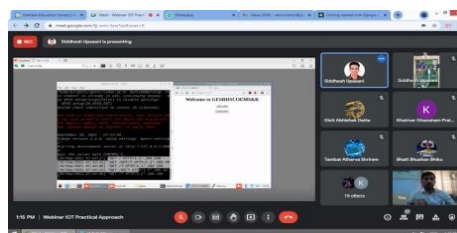
▪ **Four Days Workshop on “Arduino Programming & Application for Digital India”**

Resource Person : Mr. R. J. Shimpi, Assistant Professor, GESRHSCOEMSR, Nashik
 : Mrs. M. S. Deole, Assistant Professor, GESRHSCOEMSR, Nashik
 : Mr. D. M. Raut, Assistant Professor, GESRHSCOEMSR, Nashik
 : Mr. K. V. Karad, Assistant Professor, GESRHSCOEMSR, Nashik
 No. of Participants : 40
 Date : 02-09-2021 to 06-09-2021
 Coordinator : Mr. R. J. Shimpi



▪ **Webinar on “Internet of Things _ Practical Approach”**

Resource Person : Mr. S. N. Upasani, Assistant Professor, PICT,Pune
 No. of Participants : 22
 Date : 30-09-2021
 Coordinator : Mr. R. J. Shimpi



❖ **Students & Staff Achievements:**

▪ **Student Section**

- Miss. Shreya Kulkarni, student of BE has participated in International webinar on “Astrodynamics Trajectory Design of rocket”
- Miss. GaikwadMadhuri Santosh, has cleared Diploma in “YogShikshak” Examination, from YashwantraoChavan Maharashtra Open University, Nashik

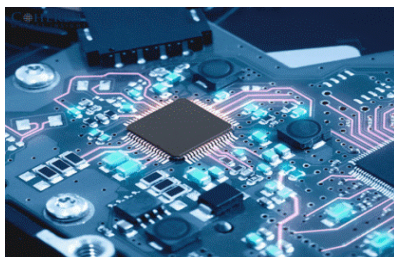
- Miss. KurheShwetaRavindra, has participated in “IOT workshop” organized by VPKBIET,Baramati
- Miss. KurheShwetaRavindra, has participated in “Full Stack Development program Demo Session”organized by EDUREKA
- Miss. SatputeKalyanipritish, has participated in a webinar on “Cyber Secure India 2021” organized by Nationwide Cyber Security Awareness initiative by Cyber Ninja Academy& EC-COUNCIL.
- Miss. MandaokarTejal Sanjay, has participated in a workshop on “Arduino Programming and Applications for Digital India” organized by GES' R H Sapat college of Engineering,Nashik
- Miss. PawarShitalKishor, has participated inquizcompetition on sports dayorganized by GES' R H Sapat college of Engineering,Nashik
- Miss. ChaudhariMahimaAshok,has participated in a workshop on “Arduino Programming and Applications for Digital India” organized by GES' R H Sapat college of Engineering,Nashik
- Miss. SonawaneSakshiRamchandra, has participated inQuiz on “Basic Electronics” organized by Imperial college of Engineering& Research,Pune
- Miss. SonawaneSakshiRamchandra, has participated in National level “Essay Competition” organized by K KWagh IER ,Nashik

▪ Staff Section

- Mrs. M. S. Deole has published a research paper, title "Capacitively coupled E shaped broadband microstrip Antenna" in IEEE International Conference on Communication information and Computing Technology (ICCICT), June 25-27, 2021, Mumbai, India
- Dr. A. A. Deshmukh has been recognized as a P.hD. research guide at SavitribaiPhule Pune University, Pune. Affiliation to Research Center at Sanjivani Rural Education Society's Sanjivani College of Engineering, Kopargaon.
- Dr. A. A. Deshmukh has published an activity BookEmbedded Systems Mini-Projects using 8051 Microcontroller in Online Publication by Y.C.M.O.U. Nashik.
- Dr. A. A. Deshmukh has worked as a reviewer in International Conference, IBSSC-2021, Organized by IEEE Bombay Section and ABV-Indian Institute of Information Technology and Management, Gwalior, India.(IEEE Bombay Section Signature Conference, 2021).

❖ Upcoming Cutting Edge Technologies:

- **Semiconductor Equipment Market to Surpass US\$108 Billion by 2026_Strengthening of VLSI Industry**



Increasing investments are made in the Research and Development of Microelectronic Devices

VLSI design has achieved tremendous growth in worldwide markets, since last few decades. Being a substantial ingredient in a circuitry; microelectronics is becoming the significant nerve of the modern world. It has touched every aspect of modern life. Moreover, growing demand for electronics and gadget services have contributed majorly to the growth of the semiconductor devices' market. It includes transistors, capacitors, inductors, resistors, diodes as well as insulators and conductors. Unique wiring techniques such as wire bonding are also often used in microelectronics because of the unusually small size of the components, leads and pads. The growth of consumer electronics industry owing to the rising adoption of smart devices like smart phones, computers, smart speakers, etc is expected to drive the growth of

microelectronics market during the forecast period.

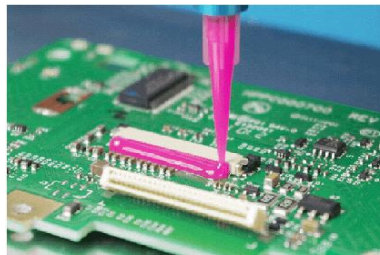
- **Semiconductor Equipment's**

- Semiconductor equipment's are the electronic components those utilize electronic properties of semiconductor materials, such as silicon, germanium, organic semiconductors and gallium arsenide; which are used to manufacture semiconductor devices or Integrated Circuits (ICs). Semiconductor equipment helps in achieving a desired output from semiconductors. It is huge sized equipment that comprises multiple step processes to produce semiconductor constituents. Semiconductor equipment's are used in order to ensure assembling of the semiconductor parts, wafer fab, and testing of the entire device. Growth in the semiconductor equipment market is driven by high adoption of technologically advanced semiconductor equipment's in sectors such as automotive, power devices, and consumer electronics.
- Top Key players- Applied Materials, ASML, Canon, Tokyo Electron, Lam Research, KLA-Tencor, Dainippon Screen, Advantest, Teradyne, and Hitachi High-Technologies etc

- **Microelectronics Cleaning Equipment's**

- Microelectronics devices such as ICs, wafers, MEMS, and PCBs require chemical cleaning process to maintain reliability and performance. Owing to which, the importance of microelectronics cleaning equipment's is huge and ever increasing in the semiconductor industry.
- Top Key players- Honeywell International Inc., United Technologies Corporation, Crestron Electronics, Inc., Cisco Systems, Inc., Ingersoll-Rand PLC, Schneider Electric SE., Johnson Controls Inc., Acuity Brands, Inc., ADT Corporation, Control4 Corporation etc.

- **Electronics Adhesives**



Electronics adhesives are advanced glue that is developed to fix the electronic parts. These materials are based on polyurethane, acrylic, epoxy, and silicone. These adhesives form stable and secure connections with metals, plastics, glass, and other materials. Electronics adhesives provide excellent temperature resistance and highly durable bond to withstand even large impacts.

They are easy to use and are highly reliable in terms of bond formation. Conformal coating, encapsulation, surface mounting, and wire tacking are some of the types a technique that can be used to apply adhesive.

Growing usage of electronic components in the automotive industry to enhance the drivability and vehicle safety is accelerating market growth. Growing IT infrastructure and connected devices is accelerating the market growth of electronics adhesives, over the forecast period.

Top Key players- Henkel AG & Co. KGaA, H.B. Fuller Company, 3M Company, Evonik Industries AG, Dymax Corporation, and Dow Corning etc.

As the design and manufacturing industries are expanding, hence the demand for VLSI skilled professionals is also enhancing. If you are planning to begin a career in the semiconductor industry then you should have a sound knowledge of jobs and growth opportunities in the VLSI domain.

❖ **Upcoming Challenges:**

- **Major Challenges That Engineering Students Face Today**

An engineering degree is one of the most pursued academic paths at a university level worldwide. In India, many high school students come with a desire to take up engineering profession and get them enrolled in renowned colleges and universities like IITs and NITs.

Students mostly prefer those institutes which are known for providing quality education right from the start of the course. But when students fail to get admission into such colleges, the only

remained option would be to pursue a degree in a state government college or in any private college.

Many say that college life is the golden period in a student's life. But nobody talks about the challenges or problems a student faces at that level.

Challenges are at a commonplace in every student's life, but as an engineering student, you will face challenges a little more than your non-engineering counterparts.

They include:

1. Language Proficiency.

Engineering education being a comprehensive course taught completely in English, students from remote areas find it extremely difficult to understand, because most of their education would be in their local language and even the brightest of them find it difficult to understand English.

2. Faculty Shortage.

As per a research, there is an acute shortage of faculty in engineering institutions in India. So, the educational institutions end up taking whomsoever with minimum qualifications is interested to teach.

3. High Fees and Expenses.

Many students, especially those coming from rural areas to cities to take up professional courses, have a hard-time considering high fees and other expenses they will need to put for admission to completion of the course.

4. Lesser Exposure to Reality.

Technical subjects require that students understand, get familiar and exposed to examples of the use of engineering principles as applicable in real life. Unfortunately, this exposure is very limited at present.

5. Lesser Industry Interaction.

Colleges try to organize Industrial visits for students to increase industry interactions, but it is rare and not as effective as it should be, especially in colleges in rural areas.

6. Lack in Absorbing Capacity.

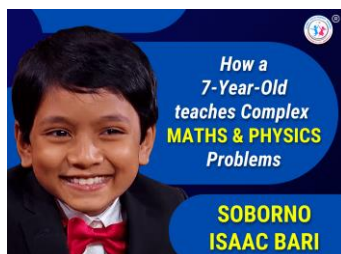
The classroom is a heterogeneous group of students. Taking into consideration of the absorbing capability of every student, the teaching should be. But now-a-days, we find around and over 100 students in the same class.

7. Employability.

According to a study, in India, out of the eight lakh graduate engineers from technical institutions, more than 60 percent remain unemployed for various reasons. There are thousands of engineering colleges in India and jobs are limited.

❖ Out of Box:

▪ Soborno Isaac Bari



Some people are born with a natural talent, and Soborno Bari is one among them. He is only 8-years-old and is a Professor at such a young age. Popularly known as 'Soborno Isaac Bari,' the child prodigy has amazed everyone through his intelligence. Named after Sir Isaac Newton, he is the youngest professor worldwide, and people also call him the Einstein of our time.

Soborno was able to talk in full sentences when he was just 6-months-old. His parents discovered his talent when they came to know that he could solve Physics, Math, and Chemistry problems very quickly at the age of 2 years. They shared his videos on social media, and initially some local TV channels in New York featured him. After some time, Isaac Bari was then invited to test his intelligence by Voice of America (VOA). The young genius became the youngest person ever to be

in conversation with VOA. The Bengali-American prodigy has also authored a book aiming at spreading peace and happiness.

Soborno's talent got global recognition soon and his parents got a message to change his name to Isaac, after Sir Isaac Newton. However, his parents initially didn't pay much attention to it, they soon recognized their son's ability, and he got the name 'Soborno Isaac Bari.'

Soborno used to solve addition problems with his mom when he was just 2. Once he said something that was never taught to him. The little boy said, "If $1 + 1$ is 2, then $n + n$ should be $2n$." It was a genius answer as he was only 2-years-old at that time. His parents were shocked and started giving him mathematics exercises regularly. Soborno was able to solve all the problems given to him.

The little professor teaches computer science and physics at MIT. At such a young age, he also writes programs for the space station robots of NASA. Soborno went to Washington for an interview and he answered some Phd level questions there. That interview went viral and he became an internet sensation at that time.

OUR BELIEF

Coming together is a Beginning...

Staying together is Progress... and

Working together is a Success...

TECHNICAL BULLETIN TEAM

- Editor In-Chief: Dr. Santosh P. Agnihotri, Head, E&TC, GESRHSCOEMSR, Nashik
- Editor: Mr. Rahul J. Shimpi, Assistant Professor, E&TC, GESRHSCOEMSR, Nashik



Gokhale Education Society's

R. H. Sapat College of Engineering, Management Studies and Research

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