



From the House of
Sri. M. S. Ramaiah
Navkis
College of Engineering

Department of Computer Science & Engineering

2020-2021

Even Semester

Volume-2 | Issue-2

NavCS MacSeen

SEE THE UNSEEN

SEPTEMBER 2021

Vision

To become a renowned education and research center producing globally competent Computer Science Engineers

Mission

- To establish excellent environment and facilities for knowledge dissemination and generation
- To promote interactions with institutions of higher learning
- To advance research and entrepreneurship
- To inculcate professional ethics and social responsibilities

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CO-EDITOR: MS. SHRUTHI, H S HARSHA



DR. MYNA A N

**Head of the Department
Computer Science and Engineering
Navkis College of Engineering, Hassan**

We are happy to release our department newsletter, NavCS MacSeen for the term 2020-21 even semester. The beginning of the semester was hit by the second wave of COVID-19. But faculty members conducted online classes using upswing classrooms which supported online conduction of quizzes and submission of assignments as well. It is indeed very sad to inform you that we lost one of our best teachers, Mr. Abhinandan.E., Asst. Professor of our department due to COVID-19.

We conducted webinars on current technologies for our students and faculty members. One of the final year student projects, 'Multi-Functional Intelligent Stick for Visually Impaired People' was selected for Karnataka State Council for Science and Technology Student Project Programme funding. Two final year projects were selected for financial assistance for innovative projects of the final year scheme of Visvesvaraya Technological University, Belagavi. It was overwhelming to see our final-year students graduating with flying colors. Heart touching farewell function was arranged for them from the department.

The semester ended by conduction of offline examinations for the final year students by following COVID protocols. Laboratory classes for lower semesters were conducted offline. We ensured that all the students had taken their first dose of vaccination. A vaccination drive was arranged in the college premises. We faced academic challenges during these tough times but all of us extended our best support for the students.

Wishing all the success in the future to the 2021 passed-out batch!

TECHNICAL ARTICLES

CYBERSECURITY FOR DATA PROTECTION

Cybersecurity means protecting data, networks, programs and other information from unauthorized or unattended access, destruction or change. In today's world, cybersecurity is very important because of some security threats and cyber-attacks. For data protection, many companies develop software. This software protects the data. Cybersecurity is important because not only it helps to secure information but also our system from virus attack. After the U.S.A. and China, India has the highest number of internet users.

Use of cyberspace, i.e. computer, internet, cellphone, other technical devices, etc., to commit a crime by an individual or organized group is called cyber-crime. Cyber attackers use numerous software and codes in cyberspace to commit cybercrime. They exploit the weaknesses in the software and hardware design through the use of malware.

Hacking is a common way of piercing the defenses of protected computer systems and interfering with their functioning. Identity theft is also common.

Cybercrimes may occur directly i.e. targeting the computers directly by spreading computer viruses. Other forms include DoS attack. It is an attempt to make a machine or network resource unavailable to its intended users. It suspends services of a host connected to the internet which may be temporary or permanent.

Malware is a software used to disrupt computer operation, gather sensitive information, or gain access to private computer systems. It usually appears in the form of code, scripts, active content, and other software. 'Malware' refers to a variety of forms of hostile or intrusive software, for example, Trojan Horses, rootkits, worms, adware, etc.

Another way of committing cybercrime is independent of the Computer Network or Device. It includes Economic frauds. It is done to destabilize the economy of a country, attack on banking security and transaction system, extract money through fraud, acquisition of credit/debit card data, financial theft, etc.

Hinder the operations of a website or service through data alteration, data destruction. Others include using obscene content to humiliate girls and harm their reputation, Spreading pornography, threatening e-mail, assuming a fake identity, virtual impersonation. Nowadays misuse of social media in creating intolerance, instigating communal violence and inciting riots is happening a lot.



Ms. Shruthi

ASSISTANT PROFESSOR
COMPUTER SCIENCE AND ENGINEERING

ROBOTICS AND CHANGING WORLD

Robotic technology is becoming one of the leading technologies in the world. They can perform many functions. They are used in many different ways in today's society. The use of robotic technology has made an immediate impact on the world in several ways. As technological advances continue, research design and building new robots serve various practical purposes, whether domestic, commercial or military. Many robots even do the jobs that are hazardous to people such as defusing bombs, mining and exploring shipwrecks.

There are numerous uses of robots which not only give better results but also help in saving money as well as time. The robots can provide high quality components and finished products, and do so reliably and repeatedly even in hazardous or unpleasant environments. There are various industry segments which are making use of robotics to improve their production capabilities.

Much of the research in robotics focuses not on specific industrial tasks, but on investigations into new types of robots, alternative ways to think about or design robots, and new ways to manufacture them.

Recently, Apollo Hospital group installed the world's most advanced CyberKnife robotic radio surgery system at the cancer speciality centre in Chennai, India. Although it meant substantial price for the hospital, Apollo decided to go ahead with the project due to the new-found enthusiasm for robotics in India.

From the Chandrayaan I project for sending robots to moon, to biomedical engineering and the auto industry, India has been using robotics on a wide scale. In an increasingly technology-driven country, robotics has fast assumed significance not only for industrial applications, but also in various day-to-day human activities.

Presently, robotics is the pinnacle of technical development. Though robotics in India is at a nascent stage, but industrial automation in India has opened up huge potential for robotics. Innovation coupled with consolidated research and development has catapulted India's scientific position in robotic technology.

In medical field, the importance of robotics has been growing. Robotics is increasingly being used in a variety of clinical and surgical settings for increasing surgical accuracy and decreasing operating time and often to create better healthcare outcomes than standard current approaches. There are multiple number of industrial robots functioning on fully automated production lines especially the high and efficient luxury and sports cars. The use of industrial robots has helped to increase productivity rate, efficiency and quality of distribution. Another major area where the use of robots is extensive is the packaging section. The packaging done using real robots is of very high quality as there is almost no chances of any human error. Another example where robotics is used is the electronic field. These are mainly in the mass-production with full accuracy and reliability. With these varied usages of robots Bill Gates has said

"Robots will be the Next World-Changing Technology"

Robotics has spread like an infection to an extent that so many movies and serials are also based on its theme. Some popular movies include Star Wars, Robocop, Ra one, Transformers etc. With such acclaimed popularity India too has come up with the Robotics Society of India (RSI). It is an academic society founded on 10th July, 2011, which aims at promoting Indian robotics and automation activities. The society hopes to serve as a bridge between researchers in institutes, government research centres and industry.

Mr. Raghu Nandan R

ASSISTANT PROFESSOR
COMPUTER SCIENCE AND ENGINEERING

INTRO ON ETHICAL HACKING

Ethical hackers learn and perform hacking in a professional manner, based on the direction of the client, and later, present a maturity scorecard highlighting their overall risk and vulnerabilities and suggestions to improve. In the dawn of international conflicts, terrorist organizations funding cybercriminals to breach security systems, either to compromise national security features or to extort huge amounts by injecting malware and denying access. Resulting in the steady rise of cybercrime. Organizations face the the challenge of updating hack-preventing tactics, installing several technologies to protect the system before falling victim to the hacker. New worms, malware, viruses, and ransomware are primary benefit is multiplying every day and is creating a need for ethical hacking services to safeguard the networks of businesses, government agencies, or defense. The primary benefit of ethical hacking is to prevent data from being stolen and misused by malicious attackers, as well as: Discovering vulnerabilities from an attacker's POV so that weak points can be fixed. Implementing a secure network that prevents security breaches. Defending national security by protecting data from terrorists. Gaining the trust of customers and investors by ensuring the security of their products and data. Helping protect networks with real-world assessments. It is no big secret that any system, process, website, device, etc., can be hacked. In order to understand how the hack might happen and what the damage could be, ethical hackers must know how to think like malicious hackers and know the tools and techniques they are likely to use. Hackers are of different types and are named based on their intent of the hacking system. Broadly, there are two main hackers – White-Hat hacker and Black-Hat hacker. The names are derived from old Spaghetti Westerns, where the good guy wears a white hat and the bad guy wears a black hat. Ethical hacking is a process of detecting vulnerabilities in an application, system, or organization's infrastructure that an attacker can use to exploit an individual or organization. They use this process to prevent cyberattacks and security breaches by lawfully hacking into the systems and looking for weak points. An ethical hacker follows the steps and thought process of a malicious attacker to gain authorized access and test the organization's strategies and network. An attacker or an ethical hacker follows the same five-step hacking process to breach the network or system. The ethical hacking process begins with looking for various ways to hack into the system, exploiting vulnerabilities, maintaining steady access to the system, and lastly, clearing one's tracks.

H S Harsha

6TH SEMESTER
COMPUTER SCIENCE AND ENGINEERING

SAY GOODBYE TO PILLS. NANO ROBOTS CAN CURE

Nanorobots will be able to repair damaged or diseased tissues. The circulatory system is the natural path for these devices and the nanorobots will pass through the bloodstream to the area of defect.

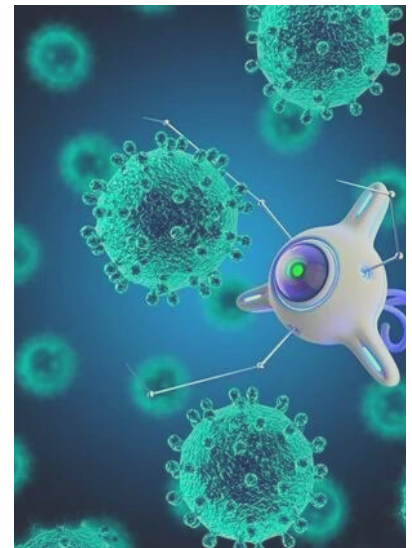
They attach themselves to specific cells, such as cancer cells, and report the position and structure of these tissues. A creative methodology in the use of these devices to fight cancer involves using silicon nanomachines with a thin coating of gold and light in the near-infrared spectrum.

Light in the 700-1000 nanometer range will pass through the tissue and reaches the defective cell. When this infrared light strikes a particular type of nanorobot, the device gets hot due to the oscillation of the metal's electrons in response to the light.

Using an MRI, the nanorobot is specifically placed in the cancerous region, and then the light causes the devices to heat to 131 degrees Fahrenheit which destroys the cancerous cells but doesn't damage surrounding tissues.

This is the new technology, without any drawbacks. These nanorobots can cure any disease without affecting any other cells or tissues. The future vision: Imagine going to the doctor to get treatment for fever, instead of giving you a tablet the doctor implants a tiny robot into your bloodstream.

The robot detects the cause of your fever, travels to the appropriate system, and provides a dose of medicine directly to the infected area. This is going to happen in a few years of time from now. Each person is going to have a nanorobot in his body which is going to monitor the human body system. So the time arrives to enjoy with the robot within our self.



Sahana M B

4th Semester

Computer Science and Engineering

- GENERAL ARTICLES -

EDUCATION IS NOT PREPARATION FOR LIFE EDUCATION IS LIFE ITSELF

Education is a life time process with no true beginning or ending. Education consists of experience, knowledge, communication with others. It is not only that what develop in somebody is important but as well that it involves the growth of knowledge in us and comprehension. Education is very important in once life itself. It is the duty of an educator to inspire his students and enhance that desire to learn by the classroom environment that he creates.

A teaching philosophy gives insight into your basic beliefs of teaching and learning. A good teacher must possess teaching skills and the ability to effectively teach all kind of students. Every student must have knowledge. I believe that not all children are able to attain the same intelligence level but do feel that every child has its own way of understanding things. All are not similar to one another. Some take time to understand things. All students must be able to learn in every way. Most of them have the capacity of doing and proving everyone that they have the ability to do that. Genuine education is based on the experience of the learners. One has to put their efforts and try to come up. If one works hard, definitely the result will be good.

Today education is very important and it is compulsory to all the children who are not eettine the education. The teacher wants to bring out the best in all students and they will make sure that their students are getting every chance to be successful. Teachers are our real well wishers. Students do not solely care about how much knowledge an educator has, but they care about how much these educators truly care. Teachers need to be there for their students. They act as facilitator and Guide

Educations a serious undertaking and that it is a very necessary tool in life. Obtaining an education is a person passport to one's future it brines upon numerous opportunities for an individual to better themsehes their life and one another.

Ms. Prathibha G
Assistant Professor
Computer Science and Engineering

RADARS ON THE TEST BENCH

Before radars can be deployed in autonomous vehicles or used to locate targets in the air or at sea, they must be thoroughly tested. State-of-the-art T&M equipment provides the necessary tools. Scottish physicist Robert Alexander Watson-Watt invented radar exactly 100 years ago. The method of using radio waves to locate objects has steadily evolved since then. Radar has repeatedly benefited from advances in radio technology, including digital modulation, beamforming with phased array antennas, and the extension of the usable frequency range to the millimeter-wave band. Today, short-range radars for vehicles are produced in large numbers and are only as large as the palm of your hand. Radars for military applications utilize all available technologies to achieve information superiority and have to be able to handle complex signal scenarios. Since security and lives often depend on radars functioning properly, it is essential that they undergo extensive tests in development labs and in the field. No special radar T&M equipment is required for these tests. The articles in this issue of NEWS show that intelligently configured standard RF instruments — provided they are top-end in terms of performance — can supply the necessary information. Oscilloscopes are the right tools for testing vehicle radars that operate in the 80 GHz frequency range. Thanks to their multichannel design, they act as phase coherent receivers to compare up to four paths of a radar antenna array. The performance of radar receivers for electronic support measures must be verified in field tests. This requires radar simulators that subject the receivers to realistic signal scenarios. A small system based on the R&S@SMW200A vector signal generator provides the necessary signals. In a live demo at the EW show in Estonia, receiver manufacturers took advantage of the opportunity to test their receivers with these signals

Ms. Tejaswini M R

Assistant Professor
Computer Science and Engineering

Awakening in New York

Curtains forcing their will
against the wind,
children sleep,
exchanging dreams with
seraphim. The city
drags itself awake on
subway straps; and
I, an alarm, awake as a
rumor of war
lie stretching into dawn
unmasked and unheeded.

Kavya S

6TH SEM CSE

Housekeeping

We mourn the broken things, chair legs
wrenched from their seats, chipped plates,
the threadbare clothes. We work the magic
of glue, drive the nails, mend the holes.
We save what we can, melt small pieces
of soap, gather fallen pecans, keep neck bones
for soup. Beating rugs against the house,
we watch dust, lit like stars, spreading
across the yard. Late afternoon, we draw
the blinds to cool the rooms, drive the bugs
out. My mother irons, singing, lost in reverie.
I mark the pages of a mail-order catalog,
listen for passing cars.

Chandhan Kumar B K

6TH SEM CSE

ACCOMPLISHMENTS

FDPs Attended by Faculty Members

Dr Myna A.N

- Attended Faculty Development Program on "Mobile Application Development: Hands-on experience" held during 15th and 16th April 2021, Navkis College of Engineering, Hassan

Ms. Prathibha G

- Attended Faculty Development Program on "Mobile Application Development: Hands-on experience" held during 15th and 16th April 2021, Navkis College of Engineering, Hassan

Mr. Raghu Nandan R

- Attended Faculty Development Program on "Mobile Application Development: Hands-on experience" held during 15th and 16th April 2021, Navkis College of Engineering, Hassan

Ms. Shruthi

- Attended Faculty Development Program on "Mobile Application Development: Hands-on experience" held during 15th and 16th April 2021, Navkis College of Engineering, Hassan

Mr. Theerthesha N O

- Attended Faculty Development Program on "Mobile Application Development: Hands-on experience" held during 15th and 16th April 2021, Navkis College of Engineering, Hassan

Ms. Tejaswini M R

- Attended Faculty Development Program on "Mobile Application Development: Hands-on experience" held during 15th and 16th April 2021, Navkis College of Engineering, Hassan
- FDP on "Digital VLSI Design & verification" organized by Dept. of ECE, Bangalore Institute of Technology, Bangalore from 23rd to 27th August 2021.
- FDP in Research innovation in computer vision organized by KINGS Engineering College, Chennai from 10th to 14th May 2021.
- "12days FDP on Entrepreneurship and Innovation" Sponsored by Dept. of Science & Technology, New Delhi Organized by Dayananda Sagar Academy of Technology & Management Bangalore held from 22 Feb to 6th March 2021.

Ms. Shubhangi Rajpoot

- Attended Faculty Development Program on "Research Opportunities in Electrical and Electronics Engineering" held from 1st March to 5th March 2021, MVJ College of Engineering, Bangalore.

Sponsored Projects

Karnataka State Council for Science and Technology

- "Multi-functional Intelligent stick for visually impaired people" by Shamika B K, Tejaswini J D, Tejaswini P and Likitha B K of VIII Sem under the guidance of Mr. Theerthesh N O.

VTU Financial Assistance

- "Classification and Detection of Cabbage leaves Disease by Analyzing Images using Deep Learning Methods" by Rakshith H S, Pavan J K, Yuktha D Jain, and Manasvi K of VIII Sem under the guidance of Dr. Myna A N
- "Review of Segmentation Algorithms in Cerebellar lesion detection from MRI Images using Deep Learning" by Pujith K L, Deepika R, and Subhashini V R of VIII Sem under the guidance of Mrs. Prathibha G

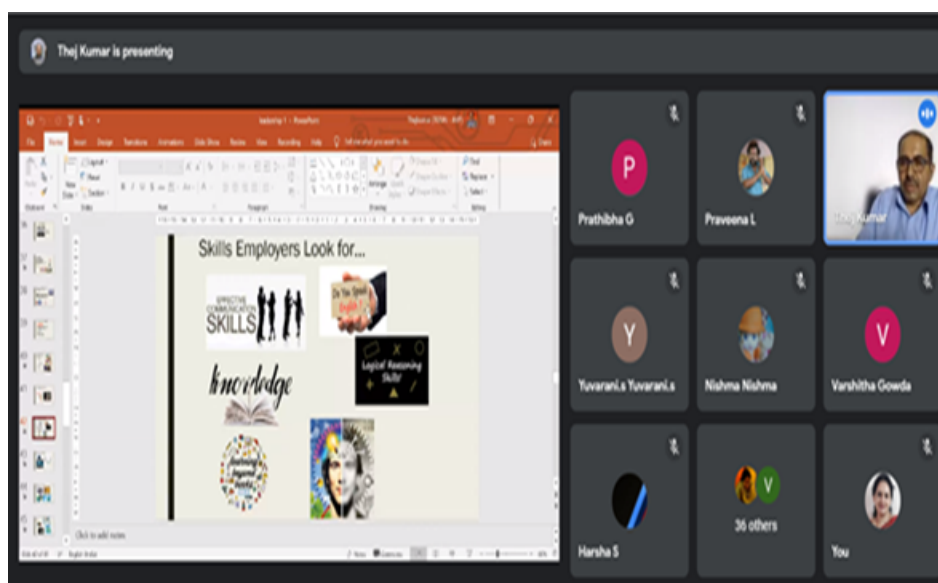
CONDOLENCE TO MR. ABHINANDAN E



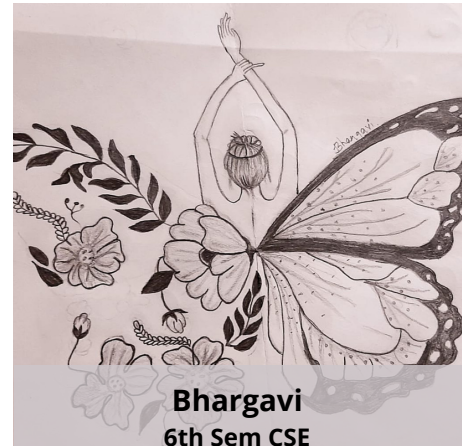
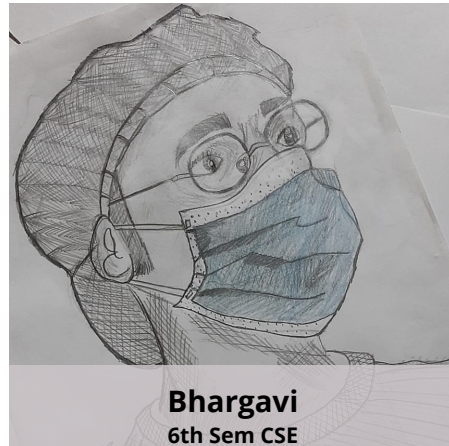
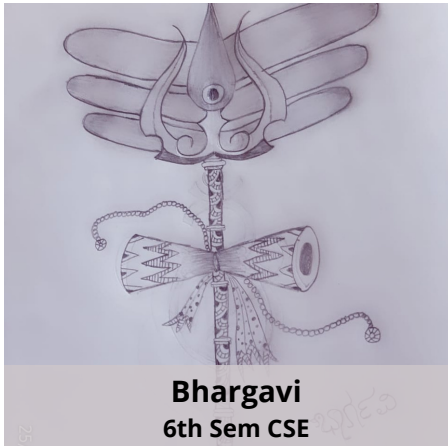
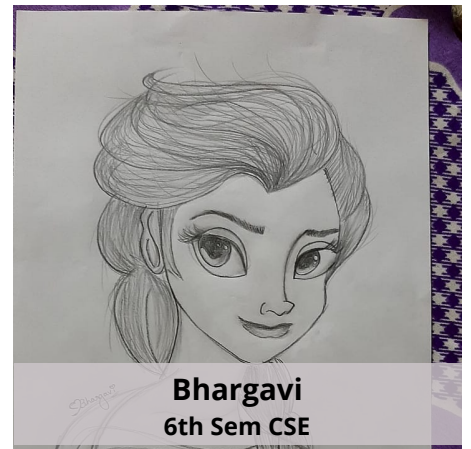
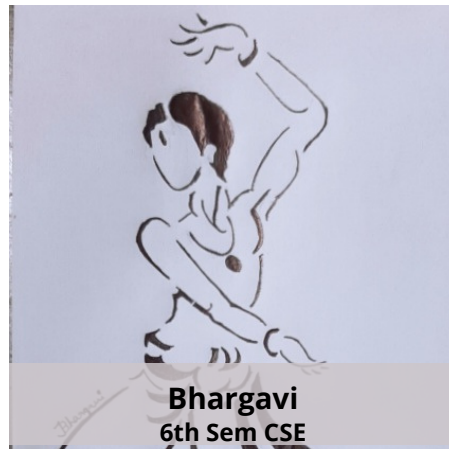
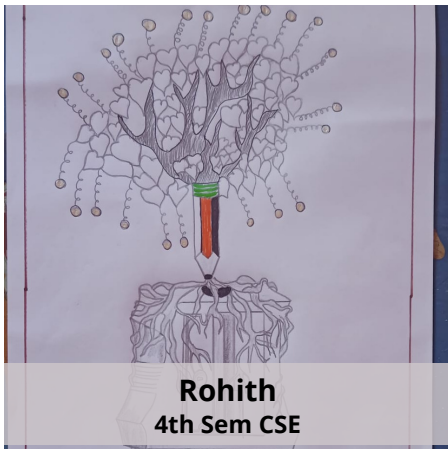
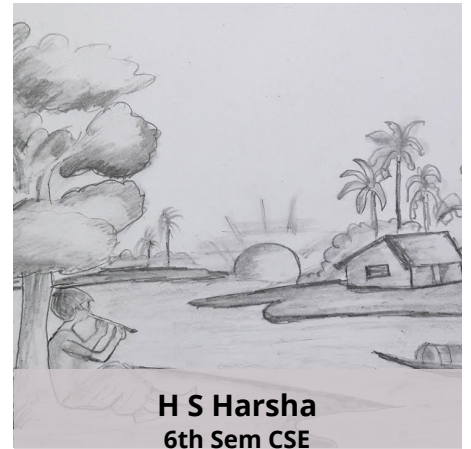
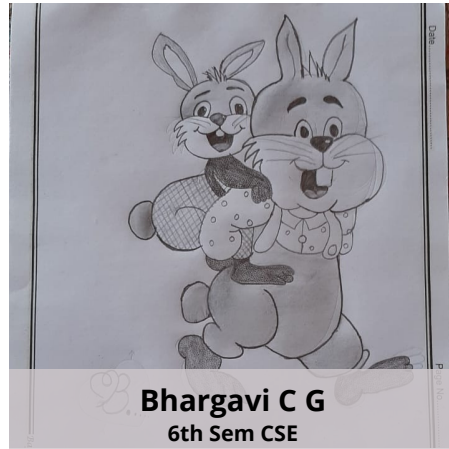
Our heartfelt condolences to Mr. Abhinandhan E, who left for Heavenly abode on 19th May 2021. He served as Assistant Professor in the Department of Computer Science and Engineering.

Webinar on "Emperors of Future"

A Webinar on "Emperors of Future" was organized by the Department of Computer Science and Engineering on 26th July 2021. The resource person was Mr. B Thej Kumar, Associate Vice President - Operations, Quality, and Product Development, Toyoda Gosei South India Private Ltd, Bengaluru. Adjunct Professor, Department of Polymer Science and Technology, S J College of Engg, JSS Science & Technology University, Mysuru. The aim of this webinar was to provide exposure to the opportunities that are presently available in the market and also to make students understand what the industry expects from them after their graduation. He explained about How to expose the participants to the trends of the opportunities in employment, to bring awareness among participants about expectations of industry from them, to bring awareness about the importance of doing internships in the industries, to skill sets that need to be developed for facing campus recruitments, to inform the students about the communication skills, to make students the importance of hard work and continuous efforts in shaping their career.



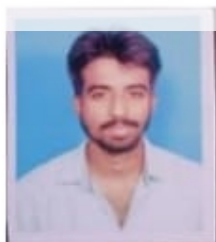
Drawing Corner



2020-2021 Final Year Students



Fathima uz zohora
4YG15CS007



Anup
4YG16CS002



Dayananda
4YG16CS005



Likitha B K
4YG18CS400



Preksha P
4YG16CS012



Pujith K L
4YG14CS035



Pavan.J. K
4YG16CS010



Aruna B
4YG17CS001



Deepika R
4YG17CS004



Karthik T G
4YG17CS005



Khudsiya Parveen
4YG17CS006



Manasvi K
4YG17CS007



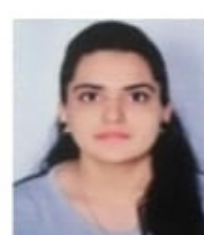
Pooja N M
4YG17CS009



Rakshith H S
4YG17CS011



Rifa Afza
4YG17CS012



Sandhyashree C K
4YG17CS014



Shamika B K
4YG17CS016



Subhashini V R
4YG17CS017



Tejashwini J D
4YG17CS019



Thejashwini P
4YG17CS020



Vishal Gowda C S
4YG17CS021



Yuktha D Jain
4YG17CS022