



KSIT
K. S. INSTITUTE OF TECHNOLOGY

Kammavari Sangham(R)-1952

K. S. INSTITUTE OF TECHNOLOGY

Approved by AICTE, New Delhi, Affiliated to VTU, Belagavi, Karnataka, Accredited by NAAC & NBA (Dept. of CSE, ECE, ME)

#14, Raghuvanahalli, Kanakapura Main Road, Bengaluru-560109

Tel : 28435722 / 724 E-mail : principal@ksit.edu.in Web : www.ksit.edu.in

ONLINE CERTIFICATION COURSES 2019-20

| SL NO. | NAME | COURSE | SIGNATURE |
|--------|--------------------|--|-----------|
| 1 | GAGAN REDDY .S | PROGRAMMING FUNDAMENTALS | |
| 2 | ADITH KARTHIK RAJU | PROGRAMMING FUNDAMENTALS | |
| 3 | MAHAK SHREE | PROGRAMMING FUNDAMENTALS | |
| 4 | KRISHNA .K.R | PROGRAMMING FUNDAMENTALS | |
| 5 | POOJA.K | CAREER EDGE -KNOCKDOWN THE LOCKDOWN | |
| 6 | NEHA NV | CAREER EDGE -KNOCKDOWN THE LOCKDOWN | |
| 7 | RASHI.S | CAREER EDGE -KNOCKDOWN THE LOCKDOWN | |
| 8 | BOOMIKA.P.M | PYTHON FOUNDATION | |
| 9 | SAHANA.V | WEB PENETRATION TEST | |
| 10 | RAHUL .R NADIG | BUILD MACHINE LEARNING WEB APP WITH STREAMLIT AND PYTHON | |
| 14 | MONISHA.B.R | COVID-19 WHAT YOU NEED TO KNOW (CME ELIGIBLE) | |
| 15 | P.SAI GOVARDHAN | COVID-19 WHAT YOU NEED TO KNOW (CME ELIGIBLE) | |
| 16 | MONISHA.B.R | CREATE YOUR FIRST PYTHON PROGRAM | |
| 17 | PRIKSHITH .S | CREATE YOUR FIRST PYTHON PROGRAM | |
| 18 | P.SAI GOVARDHAN | CREATE YOUR FIRST PYTHON PROGRAM | |
| 19 | S.TUSHAR HARINATH | CREATE YOUR FIRST PYTHON PROGRAM | |
| 20 | SURAJ.V.GHORPADE | BLOCKCHAIN TECHNOLOGY AND IT'S APPLICATIONS | |
| 21 | VRINDHA SHAM BHATT | BLOCKCHAIN TECHNOLOGY AND IT'S APPLICATIONS | |
| 22 | S.TUSHAR HARINATH | COMPUTER VISION- IMAGE BASICS WITH OPEN CV AND PYTHON | |
| 23 | S.TUSHAR HARINATH | CREATE YOUR FIRST C++ APPLICATION | |
| 24 | S.TUSHAR HARINATH | WIRELESS COMMUNICATION FOR EVERYBODY | |
| 25 | SURAJ.V.GHORPADE | WIRELESS COMMUNICATION FOR EVERYBODY | |
| 26 | RAGHAVENDRA.K.P | WIRELESS COMMUNICATION FOR EVERYBODY | |
| 27 | S.TUSHAR HARINATH | AI FOR EVERYONE | |
| 28 | RAGHAVENDRA.K.P | PROGRAMMING FOR EVERYBODY (GETTING STARED WITH PYTHON) | |
| 29 | VRINDHA SHAM BHATT | INTERNET OF THINGS AND MACHINE LEARNING | |

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K S INSTITUTE OF TECHNOLOGY
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

A SEMINAR REPORT ON
“INTRODUCTION TO DATA SCIENCE AND DATA ANALYTICS”

| | |
|-------------------------------|---|
| Semester: | 5 th Semester |
| Event Type: | Seminar |
| Event Name: | Introduction to Data Science and Data Analytics |
| Date/Duration/Timings: | 26/08/2019 to 31/08/2019 / 6 Days / 9:00am to 4:00pm |
| Associated Bodies: | Nil |
| No. of Students: | 107 |
| Expert details: | Prof. Kumar K, Prof. Roopesh Kumar B N, Prof. Raghavendrachar |

Introduction:

The six-day workshop on Data Science and Data Analytics aimed to provide participants with a comprehensive understanding of the fundamental concepts, methodologies, and tools essential for extracting meaningful insights from data. Held from 26th August 2019 to 31st August 2019 at KSIT, the workshop attracted a diverse group of students eager to delve into the world of data.

Day 1: Introduction to Data Science

The workshop commenced with an overview of data science, its applications, and its significance in various industries. Participants were introduced to key concepts such as data types, data sources, and the data science workflow. Practical exercises allowed attendees to familiarize themselves with basic data manipulation techniques using popular tools like Python and R.

Day 2: Data Preprocessing and Cleaning

On the second day, emphasis was placed on the crucial stages of data preprocessing and cleaning. Participants learned techniques to handle missing values, outliers, and inconsistencies in datasets. Hands-on sessions enabled attendees to apply data cleaning methods effectively, ensuring the integrity and quality of the data for further analysis.

Day 3: Exploratory Data Analysis (EDA)

The focus of Day 3 was on exploratory data analysis (EDA), a vital step in understanding the underlying patterns and relationships within data. Through case studies and practical examples, participants gained insights into descriptive statistics, data visualization techniques, and exploratory data visualization libraries such as Matplotlib and Seaborn.

Day 4: Machine Learning Fundamentals

Machine learning took center stage on Day 4, where participants were introduced to the basic principles and algorithms of supervised and unsupervised learning. Topics covered included regression, classification, clustering, and model evaluation. Hands-on exercises allowed attendees to implement machine learning algorithms using popular libraries like scikit-learn.

Day 5: Advanced Topics in Data Science

The penultimate day of the workshop delved into advanced topics such as feature engineering, dimensionality reduction, and model tuning. Participants explored techniques to improve model performance and efficiency, including hyperparameter optimization and cross-validation. Case studies and real-world examples provided practical insights into addressing complex data science challenges.

Day 6: Data Analytics and Final Projects

The final day focused on data analytics, where participants learned how to derive actionable insights from data to drive informed decision-making. Group projects provided an opportunity for attendees to apply their newly acquired skills to real-world datasets, presenting their findings and solutions to the group. The workshop concluded with a certificate ceremony, acknowledging the participants' commitment and achievements.

Conclusion:

The six-day workshop on Data Science and Data Analytics provided participants with a solid foundation in key concepts, techniques, and tools essential for navigating the rapidly evolving field of data science. Through interactive sessions, hands-on exercises, and practical applications, attendees gained valuable skills that can be applied across various domains to extract insights and create impact from data. The workshop served as a catalyst for fostering a community of data enthusiasts committed to leveraging data-driven approaches for innovation and problem-solving.



EO-PO Mapping

| EO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
| EO | 3 | 2 | 3 | 2 | 3 | 3 | - | - | - | 2 | - | 3 | 3 | 3 |

| | |
|---|--------------------------------|
| 3 | Substantial (High) Correlation |
| 2 | Moderate (Medium) Correlation |
| 1 | Slight (Low) Correlation |
| - | No correlation. |

PO's and PSO's Attained: PO1, PO2, PO3, PO4, PO5, PO6, PO10, PO12, PSO1 & PSO2.

Event Coordinators

Prof. & Head, CSE

*Head of the Department
Dept. of Computer Science & Engg
K.S. Institute of Technology
Bengaluru -560 109*

Principal

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#14, Raghuvanahalli, Kanakapura Main Road, Bengaluru-5600109

"Data Science and Data Analytics"

Academic Year 2019-2020 (Odd Semester)

List of Students and Attendance

Date: 26/08/2019 to 31/08/2019

| Sl No. | USN | NAME | Signature | | | | | |
|--------|------------|---------------------|------------|------------|------------|------------|------------|------------|
| | | | 26-08-2019 | 27-08-2019 | 28-08-2019 | 29-08-2019 | 30-08-2019 | 31-08-2019 |
| 1 | 1KS17CS001 | AAFREEN HUSSAIN | A Hussain | A Hussain | A Hussain | A Hussain | A Hussain | A Hussain |
| 2 | 1KS17CS002 | ABHISHEK GOWDA.M.V | Abhishek | Abhishek | Abhishek | Abhishek | Abhishek | Abhishek |
| 3 | 1KS17CS003 | AKSHATHA RAMESH | AK | AK | AK | AK | AK | AK |
| 4 | 1KS17CS004 | AKSHITHA.B.S | Akshitha | Akshitha | Akshitha | Akshitha | Akshitha | Akshitha |
| 5 | 1KS17CS005 | AMOGH.R | Amogh R | Amogh R | Amogh R | Amogh R | Amogh R | Amogh R |
| 6 | 1KS17CS006 | AMOGHA MANJUNATHA.K | Amogha | Amogha | Amogha | Amogha | Amogha | Amogha |
| 7 | 1KS17CS007 | AMRUTHA.V.DESHPANDE | Amrutha | Amrutha | Amrutha | Amrutha | Amrutha | Amrutha |
| 8 | 1KS17CS008 | ANOOP.P.S | Anoop | Anoop | Anoop | Anoop | Anoop | Anoop |
| 9 | 1KS17CS010 | ANUSHA.A.G | Anusha | Anusha | Anusha | Anusha | Anusha | Anusha |
| 10 | 1KS17CS011 | ANUSHREE.J | Anushree | Anushree | Anushree | Anushree | Anushree | Anushree |
| 11 | 1KS17CS013 | ASHISH.K.AMAR | Ashishk | Ashishk | Ashishk | Ashishk | Ashishk | Ashishk |
| 12 | 1KS17CS014 | LAKSHMI PRASANNA.B | Lakshmi PB | Lakshmi PB | Lakshmi PB | Lakshmi PB | Lakshmi PB | Lakshmi PB |
| 13 | 1KS17CS016 | BHAVESH BHANSALI | Bhavesh | Bhavesh | Bhavesh | Bhavesh | Bhavesh | Bhavesh |
| 14 | 1KS17CS017 | CHAITRA | Chaitra | Chaitra | Chaitra | Chaitra | Chaitra | Chaitra |
| 15 | 1KS17CS018 | CHANDANA.B.R | Chandana | Chandana | Chandana | Chandana | Chandana | Chandana |
| 16 | 1KS17CS019 | CHENNA KESHA.N.T | Keshava | Keshava | Keshava | Keshava | Keshava | Keshava |

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| 17 | 1KS17CS020 | DARSHAN.S | Darshan | Darshan | Darshan | Darshan | Darshan | Darshan |
| 18 | 1KS17CS021 | DEEKSHITHA.R | Deekshitha | Deekshitha | Deekshitha | Deekshitha | Deekshitha | Deekshitha |
| 19 | 1KS17CS022 | DEEPIKA.S.H | Deepika | Deepika | Deepika | Deepika | Deepika | Deepika |
| 20 | 1KS17CS023 | DIVYA YASHASWI KANNEY | Divya | Divya | Divya | Divya | Divya | Divya |
| 21 | 1KS17CS024 | GANESH.G.B | Ganesh GB | Ganesh GB | Ganesh GB | Ganesh GB | Ganesh GB | Ganesh GB |
| 22 | 1KS17CS025 | GANESH MAUDGHALYA.H.G | Ganesh | Ganesh | Ganesh | Ganesh | Ganesh | Ganesh |
| 23 | 1KS17CS026 | GAUTHAM.C.R | Gautham | Gautham | Gautham | Gautham | Gautham | Gautham |
| 24 | 1KS17CS027 | H.PRIYANKA | hPriyanka | hPriyanka | hPriyanka | hPriyanka | hPriyanka | hPriyanka |
| 25 | 1KS17CS028 | HANUMESH.V.T | H.V.T | H.V.T | H.V.T | H.V.T | H.V.T | H.V.T |
| 26 | 1KS17CS029 | HARSHITHA.V | Harshitha | Harshitha | Harshitha | Harshitha | Harshitha | Harshitha |
| 27 | 1KS17CS030 | INDRASENA KALYANAM | Indrasena | Indrasena | Indrasena | Indrasena | Indrasena | Indrasena |
| 28 | 1KS17CS032 | KARAN RAGHUNATH | Karan | Karan | Karan | Karan | Karan | Karan |
| 29 | 1KS17CS033 | KARTHIK.T.C | K.T.C | K.T.C | K.T.C | K.T.C | K.T.C | K.T.C |
| 30 | 1KS17CS034 | KAVITHA.S | KAVITHA | KAVITHA | KAVITHA | KAVITHA | KAVITHA | KAVITHA |
| 31 | 1KS17CS035 | KEERTHI.N | Keerthi.N | Keerthi.N | Keerthi.N | Keerthi.N | Keerthi.N | Keerthi.N |
| 32 | 1KS17CS036 | KRITHIKA JAGANNATH | Keethika | Keethika | Keethika | Keethika | Keethika | Keethika |
| 33 | 1KS17CS037 | LAVANYA.V | Lavanya | Lavanya | Lavanya | Lavanya | Lavanya | Lavanya |
| 34 | 1KS17CS038 | LOKESH.B.M | L.B.M | L.B.M | L.B.M | L.B.M | L.B.M | L.B.M |
| 35 | 1KS17CS040 | MANJUNATH.A | Manjuna | Manjuna | Manjuna | Manjuna | Manjuna | Manjuna |
| 36 | 1KS17CS041 | MEGHANA.C.V | Megha | Megha | Megha | Megha | Megha | Megha |
| 37 | 1KS17CS042 | MEGHANA.G | Megha | Megha | Megha | Megha | Megha | Megha |
| 38 | 1KS17CS043 | MEGHANA.G.R | Megha | Megha | Megha | Megha | Megha | Megha |

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|-----|------------|-----------------|--------|--------|--------|--------|--------|--------|
| 105 | 1KS15CS125 | ADARSH SHRESTHA | Adarsh | Adarsh | Adarsh | Adarsh | Adarsh | Adarsh |
| 106 | 1KS16CS069 | PRIYANKA.E | Priya | Priya | Priya | Priya | Priya | Priya |
| 107 | 1KS17CS401 | BHARATHI.R | B | B | B | B | B | B |

Prof. & Head, CSE

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 Dept. of Computer Science & Engg
 K.S. Institute of Technology
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DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

A SEMINAR REPORT ON “INTRODUCTION TO ETHICAL HACKING”

| | |
|-------------------------------|---|
| Semester: | 7 th Semester |
| Event Type: | Seminar |
| Event Name: | Introduction to Ethical Hacking |
| Date/Duration/Timings: | 4/11/2019 to 9/11/2019 / 6 Days / 9:00am to 4:00pm |
| Associated Bodies: | Nil |
| No. of Students: | 126 |
| Expert details: | Prof. Kumar K, Prof. Deepa S R, Prof. Roopesh Kumar B N, Prof. Raghavendrachar |

Introduction:

The six-day workshop on Ethical Hacking for 7th semester students was organized with the objective of equipping participants with essential knowledge and skills in cybersecurity. Held from 4th November to 9th November at KSIT, the workshop aimed to foster an understanding of ethical hacking principles, techniques, and best practices among college students aspiring to pursue careers in cybersecurity.

Day 1: Introduction to Ethical Hacking

The workshop commenced with an overview of ethical hacking, emphasizing its importance in identifying vulnerabilities and strengthening cybersecurity defences. Participants were introduced to the ethical hacker's role, legal and ethical considerations, and the scope of ethical hacking in modern organizations.

Day 2: Foot printing and Reconnaissance

On the second day, participants delved into the initial phase of ethical hacking: foot printing and reconnaissance. Through practical exercises and demonstrations, attendees learned techniques to gather information about target systems, networks, and organizations using open-source intelligence (OSINT) and reconnaissance tools.

Day 3: Scanning and Enumeration

Day 3 focused on scanning and enumeration, where participants explored methods to identify active hosts, services, and vulnerabilities within a target network. Hands-on sessions enabled attendees to conduct port scanning, service enumeration, and vulnerability assessment using tools such as Nmap and Nessus.

Day 4: System Hacking

The focus of Day 4 was on system hacking techniques, including password cracking, privilege escalation, and maintaining access to target systems. Participants learned how attackers exploit vulnerabilities to gain unauthorized access and explored strategies to secure systems against common attack vectors.

Day 5: Network and Web Application Hacking

On Day 5, participants delved into network and web application hacking, covering topics such as sniffing, spoofing, SQL injection, and cross-site scripting (XSS) attacks. Practical exercises provided hands-on experience in identifying and exploiting vulnerabilities in network protocols and web applications.

Day 6: Ethical Hacking Practices and Career Guidance

The final day of the workshop focused on ethical hacking practices, ethical responsibilities, and career guidance in cybersecurity. Participants learned about the ethical hacker's code of conduct, reporting vulnerabilities responsibly, and pursuing certifications such as Certified Ethical Hacker (CEH) for career advancement.

Conclusion:

The six-day workshop on Ethical Hacking for Students provided participants with a comprehensive understanding of ethical hacking principles, techniques, and methodologies. Through interactive sessions, practical exercises, and real-world examples, attendees gained hands-on experience in identifying and mitigating cybersecurity threats ethically. The workshop served as a platform for empowering college students with valuable skills and knowledge essential for pursuing careers in cybersecurity and contributing to the global effort to enhance cybersecurity resilience.



EO-PO Mapping

| EO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 |
|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|------|------|
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PO's and PSO's Attained: PO1, PO2, PO3, PO4, PO5, PO6, PO8, PO10, PO12, PSO1 & PSO2.

L. S. N
Event Coordinators

D. Duratapur
Prof. & Head, CSE
 Head of the Department
 Dept. of Computer Science & Engg
 K.S. Institute of Technology
 Bengaluru -560 109

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|----|------------|--------------------------------|-----------------|-----------------|-----------------|-----------------|-----------------|-----------------|
| 24 | 1KS16CS024 | HARSHITHA.G.R | <u>Harsha</u> | <u>Harsh</u> | <u>Harsh</u> | <u>Harsh</u> | <u>Harsh</u> | <u>Harsh</u> |
| 25 | 1KS16CS025 | HITHAISHINI.C | <u>Hitha</u> | <u>Hith</u> | <u>Hith</u> | <u>Hitha</u> | <u>Hith</u> | <u>Hith</u> |
| 26 | 1KS16CS026 | HRISHIKESH.C.V | <u>Heer</u> | <u>Har</u> | <u>Har</u> | <u>Har</u> | <u>Har</u> | <u>Har</u> |
| 27 | 1KS16CS027 | ISHANI KOUL | <u>Isha</u> | <u>Isha</u> | <u>Isha</u> | <u>Isha</u> | <u>Isha</u> | <u>Isha</u> |
| 28 | 1KS16CS029 | KAMAKOTI.P.SUSEELA PRIYANKA | <u>KP</u> | <u>KP</u> | <u>KP</u> | <u>KP</u> | <u>KP</u> | <u>KP</u> |
| 29 | 1KS16CS030 | KAVYA.D | <u>KD</u> | <u>KD</u> | <u>KD</u> | <u>KD</u> | <u>KD</u> | <u>KD</u> |
| 30 | 1KS16CS031 | KEERTHANA VIJAYABASKAR | <u>Wijay</u> | <u>Wijay</u> | <u>Wijay</u> | <u>Wijay</u> | <u>Wijay</u> | <u>Wijay</u> |
| 31 | 1KS16CS032 | KEERTHI.M | <u>Keerthi</u> | <u>Keerthi</u> | <u>Keerthi</u> | <u>Keerthi</u> | <u>Keerthi</u> | <u>Keerthi</u> |
| 32 | 1KS16CS033 | KETAN.K | <u>Ketan</u> | <u>Ketan</u> | <u>Ketan</u> | <u>Ketan</u> | <u>Ketan</u> | <u>Ketan</u> |
| 33 | 1KS16CS034 | KIRAN KUMAR.M | <u>KKM</u> | <u>KKM</u> | <u>KKM</u> | <u>KKM</u> | <u>KKM</u> | <u>KKM</u> |
| 34 | 1KS16CS035 | KOVVURI TARUN NAIDU | <u>Naidu</u> | <u>Naidu</u> | <u>Naidu</u> | <u>Naidu</u> | <u>Naidu</u> | <u>Naidu</u> |
| 35 | 1KS16CS036 | LAKSHYA RUHELA | <u>Lakshar</u> | <u>Lakshar</u> | <u>Lakshar</u> | <u>Lakshar</u> | <u>Lakshar</u> | <u>Lakshar</u> |
| 36 | 1KS16CS037 | LAVANYA.B | <u>Lavanya</u> | <u>Lavanya</u> | <u>Lavanya</u> | <u>Lavanya</u> | <u>Lavanya</u> | <u>Lavanya</u> |
| 37 | 1KS16CS038 | MANASA REDDY.K | <u>Manasa</u> | <u>Manasa</u> | <u>Manasa</u> | <u>Manasa</u> | <u>Manasa</u> | <u>Manasa</u> |
| 38 | 1KS16CS039 | MANIPI MANOJ | <u>Mani</u> | <u>Mani</u> | <u>Mani</u> | <u>Mani</u> | <u>Mani</u> | <u>Mani</u> |
| 39 | 1KS16CS040 | MANMOHAN SINGH | <u>Manigh</u> | <u>Manigh</u> | <u>Manigh</u> | <u>Manigh</u> | <u>Manigh</u> | <u>Manigh</u> |
| 40 | 1KS16CS041 | MEGHANA.B.S | <u>MeghanaB</u> | <u>MeghanaB</u> | <u>MeghanaB</u> | <u>MeghanaB</u> | <u>MeghanaB</u> | <u>MeghanaB</u> |
| 41 | 1KS16CS044 | MOHITH.P | <u>Mohith</u> | <u>Mohith</u> | <u>Mohith</u> | <u>Mohith</u> | <u>Mohith</u> | <u>Mohith</u> |
| 42 | 1KS16CS045 | MONICA.M | <u>Moni</u> | <u>Moni</u> | <u>Moni</u> | <u>Moni</u> | <u>Moni</u> | <u>Moni</u> |
| 43 | 1KS16CS046 | MONIKA.C | <u>Monika</u> | <u>Monika</u> | <u>Monika</u> | <u>Monika</u> | <u>Monika</u> | <u>Monika</u> |
| 44 | 1KS16CS047 | MONISHA.R | <u>monisha</u> | <u>monisha</u> | <u>monisha</u> | <u>monisha</u> | <u>monisha</u> | <u>monisha</u> |
| 45 | 1KS16CS048 | MYTHRESH.A | <u>Myth</u> | <u>Myth</u> | <u>Myth</u> | <u>Myth</u> | <u>Myth</u> | <u>Myth</u> |
| 46 | 1KS16CS049 | NAGALEKHA RAMESH | <u>NRe</u> | <u>NRe</u> | <u>NRe</u> | <u>NRe</u> | <u>NRe</u> | <u>NRe</u> |
| 47 | 1KS16CS051 | NARSINGH KUMAR CHAUHAN | <u>Nars</u> | <u>Nars</u> | <u>Nars</u> | <u>Nars</u> | <u>Nars</u> | <u>Nars</u> |
| 48 | 1KS16CS052 | NAVYA.N | <u>Navya</u> | <u>Navya</u> | <u>Navya</u> | <u>Navya</u> | <u>Navya</u> | <u>Navya</u> |

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|----|------------|-------------------------------|---------|---------|---------|---------|---------|---------|
| 49 | 1KS16CS053 | NIHARIKA RAJARAM | N | N | N | N | N | N |
| 50 | 1KS16CS054 | NIKHILA.M.Y | Nikhil | Nikhil | Nikhil | Nikhil | Nikhil | Nikhil |
| 51 | 1KS16CS055 | NISARGA.B | Nisarga | Nisarga | Nisarga | Nisarga | Nisarga | Nisarga |
| 52 | 1KS16CS056 | NITHYA.G | Nithya | Nithya | Nithya | Nithya | Nithya | Nithya |
| 53 | 1KS16CS057 | NIVETHA.K | nive | niv | niv | nive | niv | niv |
| 54 | 1KS16CS058 | NUKALA HARI VAMSI, KRISHNA | N | N | N | N | N | N |
| 55 | 1KS16CS060 | PAVAN GOWDA.B.K | Pavan | Pavan | Pavan | Pavan | Pava | Pan |
| 56 | 1KS16CS120 | SINDHUSHREE | Sindhu | Sindhu | Sindhu | Sindhu | Sindhu | Sindhu |
| 57 | 1KS16CS121 | SUSHMA BASAVARAJ NIDONI | Sus | Sus | Sus | Sus | Sus | Sus |
| 58 | 1KS17CS403 | KARISHMA.A.J | Karish | Karish | Karish | Karish | Karish | Karish |
| 59 | 1KS17CS404 | NETHRAVATHI.K.G | Nethra | Nethra | Nethra | Nethra | Nethra | Nethra |
| 60 | 1KS17CS406 | SANDHYA.K | Sandhya | Sandhya | Sandhya | Sandhya | Sandhya | Sandhya |
| 61 | 1KS17CS407 | SHRUTHI.D.N | Shruthi | Shruthi | Shruthi | Shruthi | Shruthi | Shruthi |
| 62 | 1KS15CS009 | ANUPAM.R | Anu | Anu | Anu | Anu | Anu | Anu |
| 63 | 1KS15CS011 | APOORVA.V.KUMAR | Apoorva | Apoorva | Apoorva | Apoorva | Apoorva | Apoorva |
| 64 | 1KS15CS014 | BHARATH.H.G | Bharath | Bharath | Bharath | Bharath | Bharath | Bharath |
| 65 | 1KS15CS037 | JAYRAJ JATIN BAGDAWALA | J.J.B | JJB | JJB | JJB | JJB | JJB |
| 66 | 1KS15CS078 | RAJEEV KOUSHIK.Y.G | YK | YK | YK | YK | YK | YK |
| 67 | 1KS16CS061 | POOJA SREEDHARA MURTHY | Pooja | Pooja | Pooja | Pooja | Pooja | Pooja |
| 68 | 1KS16CS062 | PRADEEP.K.S | Pradeep | Pradeep | Pradeep | Pradeep | Pradeep | Pradeep |
| 69 | 1KS16CS063 | PRAJWAL.D | Prajwal | Prajwal | Prajwal | Prajwal | Prajwal | Prajwal |
| 70 | 1KS16CS064 | PRANJUL MISHRA | Pranjul | Pranjul | Pranjul | Pranjul | Pranjul | Pranjul |

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|----|------------|-----------------------|----------|----------|----------|----------|----------|----------|
| 71 | 1KS16CS065 | PRASHANT KUMAR TIWARI | Prashant | Prashant | Prashant | Prashant | Prashant | Prashant |
| 72 | 1KS16CS066 | PRATIK.N.N | P.N.N | P.N.N | P.N.N | P.N.N | P.N.N | P.N.N |
| 73 | 1KS16CS067 | PREKSHA.J.W | Pjw | Pjw | Pjw | Pjw | Pjw | Pjw |
| 74 | 1KS16CS070 | PRIYANKA PANDIT | PP | PP | PP | PP | PP | PP |
| 75 | 1KS16CS071 | PRUTHVI PATEL.A.S | Patel | Patel | Patel | Patel | Patel | Patel |
| 76 | 1KS16CS072 | RAGHURAM.G.N | RGN | RGN | RGN | RGN | RGN | RGN |
| 77 | 1KS16CS073 | RAHUL.V | Rahul | Rahul | Rahul | Rahul | Rahul | Rahul |
| 78 | 1KS16CS074 | RAKSHIT PAWAR | RP | RP | RP | RP | RP | RP |
| 79 | 1KS16CS076 | RITWIK.G.S | Ritwik | Ritwik | Ritwik | Ritwik | Ritwik | Ritwik |
| 80 | 1KS16CS077 | ROHIT KUMAR.B.R | Rohit | Rohit | Rohit | Rohit | Rohit | Rohit |
| 81 | 1KS16CS078 | RUTHVIK.B.R | Ruthvik | Ruthvik | Ruthvik | Ruthvik | Ruthvik | Ruthvik |
| 82 | 1KS16CS079 | SAHANA.S | S | S | S | S | S | S |
| 83 | 1KS16CS081 | SAMEEKSHA.M.GUPTA | S | S | S | S | S | S |
| 84 | 1KS16CS082 | SAMPATH KUMAR | Sampath | Sampath | Sampath | Sampath | Sampath | Sampath |
| 85 | 1KS16CS083 | SANDHYA.D | Sandhya | Sandhya | Sandhya | Sandhya | Sandhya | Sandhya |
| 86 | 1KS16CS084 | SANDRA VAANTJA | Sandra | Sandra | Sandra | Sandra | Sandra | Sandra |
| 87 | 1KS16CS086 | SAVINAYA SHETTY.T.N | T.N | T.N | T.N | T.N | T.N | T.N |
| 88 | 1KS16CS087 | SHALINI.N | Shalini | Shalini | Shalini | Shalini | Shalini | Shalini |
| 89 | 1KS16CS088 | SHALINI.V | Shalini | Shalini | Shalini | Shalini | Shalini | Shalini |
| 90 | 1KS16CS089 | SHANTANU KUMAR | Shantanu | Shantanu | Shantanu | Shantanu | Shantanu | Shantanu |
| 91 | 1KS16CS091 | SHEELA | Sheela | Sheela | Sheela | Sheela | Sheela | Sheela |
| 92 | 1KS16CS092 | SHRAVAN BHAT | Shravan | Shravan | Shravan | Shravan | Shravan | Shravan |

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| 93 | 1KS16CS093 | SHREELEKHA.R.N | Shree | Shree | Shree | Shree | Shree | Shree |
| 94 | 1KS16CS094 | SHREYAS.H.C | Shre | Shre | Shre | Shre | Shre | Shre |
| 95 | 1KS16CS095 | SHRIVIDYA.N | Shriya | Shriya | Shriya | Shriya | Shriya | Shriya |
| 96 | 1KS16CS096 | SIDDHANTH.M | Sidh | Sidh | Sidh | Sidh | Sidh | Sidh |
| 97 | 1KS16CS098 | SONALI SINHA | Sonali Sinha | Sonali Sinha | Sonali Sinha | Sonali Sinha | Sonali Sinha | Sonali Sinha |
| 98 | 1KS16CS099 | SOUJANYA.K | Soujanya | Soujanya | Soujanya | Soujanya | Soujanya | Soujanya |
| 99 | 1KS16CS100 | SOUMYA DATTATREYA HEGDE | SD Hegde | SD Hegde | SD Hegde | SD Hegde | SD Hegde | SD Hegde |
| 100 | 1KS16CS101 | SOURAB KUMAR | Sourab | Sourab | Sourab | Sourab | Sourab | Sourab |
| 101 | 1KS16CS102 | SUHAS.K.J | Suhas | Suhas | Suhas | Suhas | Suhas | Suhas |
| 102 | 1KS16CS103 | SUHAS KAKADE.K | Suhas | Suhas | Suhas | Suhas | Suhas | Suhas |
| 103 | 1KS16CS104 | SUHIL.K.M | Suhil | Suhil | Suhil | Suhil | Suhil | Suhil |
| 104 | 1KS16CS105 | SUPRIYA.C | Supriya | Supriya | Supriya | Supriya | Supriya | Supriya |
| 105 | 1KS16CS106 | SURYA.M | Surya | Surya | Surya | Surya | Surya | Surya |
| 106 | 1KS16CS107 | SWATHI.M.C | Swathi | Swathi | Swathi | Swathi | Swathi | Swathi |
| 107 | 1KS16CS108 | TANUSHREE.P | Tanushree | Tanushree | Tanushree | Tanushree | Tanushree | Tanushree |
| 108 | 1KS16CS109 | TEJASWINI.G | Tejaswini | Tejaswini | Tejaswini | Tejaswini | Tejaswini | Tejaswini |
| 109 | 1KS16CS112 | VARSHA PURUSHOTHAM | Varsha | Varsha | Varsha | Varsha | Varsha | Varsha |
| 110 | 1KS16CS113 | VARSHITHA.K | Varshitha | Varshitha | Varshitha | Varshitha | Varshitha | Varshitha |
| 111 | 1KS16CS114 | VEDANTHI KARTHIK.N | Vedanthi | Vedanthi | Vedanthi | Vedanthi | Vedanthi | Vedanthi |
| 112 | 1KS16CS115 | VELLUVAYALA RAKESH SRIVATSAV | Velluvayala Rakesh | Velluvayala Rakesh | Velluvayala Rakesh | Velluvayala Rakesh | Velluvayala Rakesh | Velluvayala Rakesh |
| 113 | 1KS16CS116 | VENNALA.K.N | Vennala | Vennala | Vennala | Vennala | Vennala | Vennala |
| 114 | 1KS16CS117 | VIDHYA DHARI.L | Vidhya | Vidhya | Vidhya | Vidhya | Vidhya | Vidhya |

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|-----|------------|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| 115 | 1KS16CS118 | VIDYASHREE.S | V.Shree | V.Shree | V.Shree | V.Shree | V.Shree | V.Shree |
| 116 | 1KS16CS119 | VYDEHI BHAT | V.Bhat | V.Bhat | V.Bhat | V.Bhat | V.Bhat | V.Bhat |
| 117 | 1KS16CS123 | RASHMI HEGADE | Rashmi | Rashmi | Rashmi | Rashmi | Rashmi | Rashmi |
| 118 | 1KS17CS405 | NISHANTH.A | Nishanth | Nishanth | Nishanth | Nishanth | Nishanth | Nishanth |
| 119 | 1KS15CS035 | HARSHITHA SAKCHI | Harshitha | Harshitha | Harshitha | Harshitha | Harshitha | Harshitha |
| 120 | 1KS15CS069 | PRASHANTH.S | Prashanth | Prashanth | Prashanth | Prashanth | Prashanth | Prashanth |
| 121 | 1KS15CS073 | PRIYANKA.M | Priyanka | Priyanka | Priyanka | Priyanka | Priyanka | Priyanka |
| 122 | 1KS15CS091 | SHANTHANU SHIVASWAMY | S.S.Swamy | S.S.Swamy | S.S.Swamy | S.S.Swamy | S.S.Swamy | S.S.Swamy |
| 123 | 1KS15CS121 | YASHAS.H.R | Yashas | Yashas | Yashas | Yashas | Yashas | Yashas |
| 124 | 1KS15CS127 | VINUTHA.S | Vinutha | Vinutha | Vinutha | Vinutha | Vinutha | Vinutha |
| 125 | 1KS14CS076 | PAVAN KUMAR.D | Pavan | Pavan | Pavan | Pavan | Pavan | Pavan |
| 126 | 1KS16CS404 | JYOTHIPRIYA.M | Jyothi | Jyothi | Jyothi | Jyothi | Jyothi | Jyothi |

Duratape

Prof. & Head, CSE

Head of the Department
Dept. of Computer Science & Engg
K.S. Institute of Technology
Bengaluru - 560 109

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K.S. INSTITUTE OF TECHNOLOGY, BANGALORE – 560109
DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

Image and video Processing using Rasberry Pi

Date of Conduction: 21-10-2019 to 26-10-2019

Venue: KSIT COLLEGE

Time: 9.00 AM TO 4.00 PM

Duration: 6 days

Sponsoring Bodies / Associating Organization: Nil

Expert Details – Dr.Joy Prabhakaran, Prof. Saleem S Tevaramani

Objectives / Key Highlights: Familiarize participants with Raspberry Pi hardware and Python programming to enable image and video processing. Develop skills in basic and advanced image processing techniques, including manipulation, filtering, and object recognition.

Participant details – 5th, 7th Semester students of ECE - 217 students



Introduction to Raspberry Pi and Python Basics

- Overview of Raspberry Pi and its capabilities
- Setting up Raspberry Pi

Image Processing Basics

- Introduction to image processing concepts
- Capturing images using Raspberry Pi camera module
- Installing and using OpenCV on Raspberry Pi
 - Basic image manipulation (resizing, rotating, flipping)

Advanced Image Processing

- Image filtering (blurring, sharpening, edge detection)
- Color manipulation (converting color spaces, thresholding)
- Contour detection and object recognition

Video Processing Basics

- Introduction to video processing concepts
- Capturing video using Raspberry Pi camera module
- Playing videos on Raspberry Pi
- Basic video manipulation (extracting frames, resizing)

Advanced Video Processing

- Motion detection using video streams
- Background subtraction
- Object tracking in videos
- Real-time video processing applications

Project Day

- Participants work on a project combining image and video processing techniques learned during the workshop
- Project presentation and discussion

Outcomes / Benefits:

1. Understand the fundamentals of Raspberry Pi and Python programming for image and video processing.
2. Gain proficiency in basic image manipulation techniques and image processing concepts.
3. Learn advanced image processing techniques such as filtering, color manipulation, and contour detection.
4. Acquire skills in capturing and processing video on Raspberry Pi, including motion detection and object tracking.

| CO/PO&P SO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 |
|---------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|----------|----------|
| | 3 | 3 | 2 | 3 | 3 | 3 | | | | | | 3 | 3 | 3 |


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Dept. of Electronics & Communication Engg.
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Image & Video Processing using Raspberry Pi

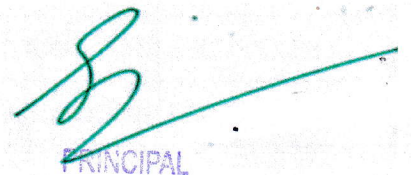
ACADEMIC YEAR - 2019 -20 (EVEN SEMESTER)

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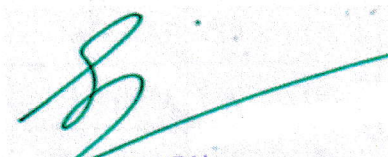
| SL.NO | USN | NAME OF THE STUDENT | 21-Oct | 22-Oct | 23-Oct | 24-Oct | 25-Oct | 26-Oct |
|-------|------------|---------------------|----------|----------|----------|----------|----------|----------|
| 1 | 1KS17EC001 | ABHISHEK.K.V | A | A | A | A | A | A |
| 2 | 1KS17EC002 | ABIJITH SUDHIR | Abhis | Abhi | Abhi | Abhi | Abhi | Abhi |
| 3 | 1KS17EC003 | AKKSHAY.U.L | Aksha | Aksha | Aksha | Akas | Akas | Akas |
| 4 | 1KS17EC004 | AKSHITHA.V.RAMESH | Akshitha | Akshitha | Akshitha | Akshitha | Akshitha | Akshitha |
| 5 | 1KS17EC005 | AMOGHAVARSHA.N.D | Amogha | Amogha | Amogha | Amogha | Amogha | Amogha |
| 6 | 1KS17EC006 | AMULYA.S.IYENGAR | Ah | Ah | Ah | Ah | Ah | Ah |
| 7 | 1KS17EC007 | ANA EPSIBA.F | Ana | Ana | Ana | Ana | Ana | Ana |
| 8 | 1KS17EC008 | ANAGHA.A.KASHYAP | Ana | Ana | Ana | Ana | Ana | Ana |
| 9 | 1KS17EC009 | ANITHA.R | Ani | Ani | Ani | Ani | Ani | Ani |
| 10 | 1KS17EC010 | ANOOP DEEKSHITH.R | Aneek | Aneek | Aneek | Aneek | Aneek | Aneek |
| 11 | 1KS17EC011 | ANUPAM.M.L | Anu | Anu | Anu | Anu | Anu | Anu |
| 12 | 1KS17EC012 | ANUSHA.L | Anu | Anu | Anu | Anu | Anu | Anu |
| 13 | 1KS17EC013 | ANUSHREE.M | Anu | Anu | Anu | Anu | Anu | Anu |
| 14 | 1KS17EC014 | ANUSHRI.V.K | Anu | Anu | Anu | Anu | Anu | Anu |
| 15 | 1KS17EC015 | APEKSHA RAVI KUMAR | Apk | Apk | Apk | Apk | Apk | Apk |
| 16 | 1KS17EC016 | ARPITHA | Arp | Arp | Arp | Arp | Arp | Arp |
| 17 | 1KS17EC017 | ASIYA FATHIMA.N | Asiya | Asiya | Asiya | Asiya | Asiya | Asiya |
| 18 | 1KS17EC018 | AYESHA ROSHEEN | Aysha | Aysha | Aysha | Aysha | Aysha | Aysha |
| 19 | 1KS17EC019 | B.D.SHREENIDHI | Bree | Bree | Bree | Bree | Bree | Bree |
| 20 | 1KS17EC020 | BHAVANA.B.S | Bha | Bha | Bha | Bha | Bha | Bha |
| 21 | 1KS17EC021 | BHAVANA.J | Bha | Bha | Bha | Bha | Bha | Bha |
| 22 | 1KS17EC022 | BHOOMIKA.P.K | Bho | Bho | Bho | Bho | Bho | Bho |
| 23 | 1KS17EC023 | BINDU.J | Bin | Bin | Bin | Bin | Bin | Bin |
| 24 | 1KS17EC024 | CHAITHRA.V.M | Chaitra | Chaitra | Chaitra | Chaitra | Chaitra | Chaitra |
| 25 | 1KS17EC025 | CHARAN SAI.Y | Charan | Charan | Charan | Charan | Charan | Charan |
| 26 | 1KS17EC026 | CETHAN.D.R | Chetan | Chetan | Chetan | Chetan | Chetan | Chetan |
| 27 | 1KS17EC027 | CETHAN.G | Chetan | Chetan | Chetan | Chetan | Chetan | Chetan |
| 28 | 1KS17EC028 | CETHANA.K.S | She | She | She | She | She | She |

| SL.NO | USN | NAME OF THE STUDENT | 21-Oct | 22-Oct | 23-Oct | 24-Oct | 25-Oct | 26-Oct |
|-------|------------|---------------------|---------|---------|---------|---------|---------|---------|
| 29 | 1KS17EC029 | CHETHANA PRASAD.K | Cheth | Cheth | Cheth | Cheth | Cheth | Cheth |
| 30 | 1KS17EC030 | DARSHAN.T.G | Darshan | Darshan | Darshan | Darshan | Darshan | Darshan |
| 31 | 1KS17EC031 | DEVALE SUDARSHAN | Deval | Deval | Deval | Deval | Deval | Deval |
| 32 | 1KS17EC032 | DEVIYANI.G | Devini | Devini | Devini | Devini | Devini | Devini |
| 33 | 1KS17EC033 | DHAKSHITH.N.K | Dhak | Dhak | Dhak | Dhak | Dhak | Dhak |
| 34 | 1KS17EC035 | DISHA.S | Disha | Disha | Disha | Disha | Disha | Disha |
| 35 | 1KS17EC036 | DIVYA.T.M | Divya | Divya | Divya | Divya | Divya | Divya |
| 36 | 1KS17EC038 | GOPINATH.H.C | Gopin | Gopin | Gopin | Gopin | Gopin | Gopin |
| 37 | 1KS17EC039 | GOWTHAM.B | Gowth | Gowth | Gowth | Gowth | Gowth | Gowth |
| 38 | 1KS17EC040 | G.S.SURABHI | Gsurab | Gsurab | Gsurab | Gsurab | Gsurab | Gsurab |
| 39 | 1KS17EC041 | H.G.SRINIDHI | Hg | Hg | Hg | Hg | Hg | Hg |
| 40 | 1KS17EC042 | JEEVAN.R.S | Jeevan | Jeevan | Jeevan | Jeevan | Jeevan | Jeevan |
| 41 | 1KS17EC043 | K.SHREYA | Shreya | Shreya | Shreya | Shreya | Shreya | Shreya |
| 42 | 1KS17EC044 | KAMNOOR SUSHMA | Kamno | Kamno | Kamno | Kamno | Kamno | Kamno |
| 43 | 1KS17EC045 | KRITHIKA.P | Krithi | Krithi | Krithi | Krithi | Krithi | Krithi |
| 44 | 1KS17EC046 | LAKSHAN.N.S | NS | NS | NS | NS | NS | NS |
| 45 | 1KS17EC047 | LEKHA YADAV.B | Lekha | Lekha | Lekha | Lekha | Lekha | Lekha |
| 46 | 1KS17EC048 | M.R.SRINIVAS | MR | MR | MR | MR | MR | MR |
| 47 | 1KS17EC049 | RANJITH.M | Ranjit | Ranjit | Ranjit | Ranjit | Ranjit | Ranjit |
| 48 | 1KS17EC050 | M.SIRISHA | Sirisha | Sirisha | Sirisha | Sirisha | Sirisha | Sirisha |
| 49 | 1KS17EC051 | MADHU.S | Madhu | Madhu | Madhu | Madhu | Madhu | Madhu |
| 50 | 1KS17EC052 | MAHADEVA.G | Maha | Maha | Maha | Maha | Maha | Maha |
| 51 | 1KS17EC053 | MAMATHA.K.S | Mamath | Mamath | Mamath | Mamath | Mamath | Mamath |



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| SL.NO | USN | NAME OF THE STUDENT | 21-Oct | 22-Oct | 23-Oct | 24-Oct | 25-Oct | 26-Oct |
|-------|------------|----------------------|--------|--------|---------|---------|---------|---------|
| 29 | 1KS17EC084 | SAHANA.M.K | Saha | Sah | Sah | Sah | Sah | Saha |
| 30 | 1KS17EC085 | SAHANA.V | Sah | Sah | Sah | Sah | Sah | Sah |
| 31 | 1KS17EC086 | SANDEEP KUMAR.M | Sau | Sau | Sau | Sau | Sau | Sau |
| 32 | 1KS17EC087 | SHAMANTH RAJ.D.N | Sham | Sham | Sham | Sham | Sham | Sham |
| 33 | 1KS17EC088 | SHIVANI.K | Shini | Shini | Shini | Shini | Shini | Shini |
| 34 | 1KS17EC089 | SHRAVYA.S.ACHARYA | Shrav | Shrav | Shrav | Shrav | Shrav | Shrav |
| 35 | 1KS17EC090 | SHREYAS.H.R | Shre | Shre | Shre | Shre | Shre | Shre |
| 36 | 1KS17EC092 | SRIVIDYA.V.R | Sri | Sri | Sri | Sri | Sri | Sri |
| 37 | 1KS17EC093 | SUPRIYA.V | Supri | Supri | Supriya | Supriya | Supriya | Supriya |
| 38 | 1KS17EC094 | SURYA.N | Surya | Surya | Surya | Surya | Surya | Surya |
| 39 | 1KS17EC095 | SUSHMITHA.B.L | Sush | Sush | Sush | Sush | Sush | Sush |
| 40 | 1KS17EC096 | SUSHMITHA.K.N | Sush | Sush | Sush | Sush | Sush | Sush |
| 41 | 1KS17EC097 | SYED WAQAR KASHIF | Suw | Suw | Suw | Suw | Suw | Suw |
| 42 | 1KS17EC098 | TEJAS.K | Tejas | Tejas | Tejas | Tejas | Tejas | Tejas |
| 43 | 1KS17EC099 | VAIBHAVI SREENIVASA | Vai | Vai | Vai | Vai | Vai | Vai |
| 44 | 1KS17EC100 | VAISHNAVI.K.KATTI | Vaish | Vaish | Vaish | Vaish | Vaish | Vaish |
| 45 | 1KS17EC101 | VAISHNAVI.S | Vai | Vai | Vai | Vai | Vai | Vai |
| 46 | 1KS17EC102 | VAISHNAVI SRIHARSHAN | Vai | Vai | Vai | Vai | Vai | Vai |
| 47 | 1KS17EC103 | VIDYA.V | Vidya | Vidya | Vidya | Vidya | Vidya | Vidya |
| 48 | 1KS17EC104 | VISHAL GOUTHAM.N | Vy | Vy | Vy | Vy | Vy | Vy |
| 49 | 1KS17EC105 | YASHASWINI.R | Yash | Yash | Yash | Yash | Yash | Yash |
| 50 | 1KS18EC403 | HARSHITHA B | Har | Har | Har | Har | Har | Har |
| 51 | 1KS18EC406 | MAHADEVA G R | Dev | Dev | Dev | Dev | Dev | Dev |
| 52 | 1KS18EC408 | VANITHA C | Vani | Vani | Vani | Vani | Vani | Vani |


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Image & Video Processing using Raspberry Pi

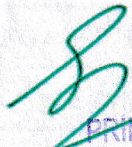
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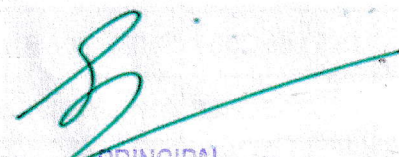
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| SL.NO | USN | NAME OF THE STUDENT | 21-Oct | 22-Oct | 23-Oct | 24-Oct | 25-Oct | 26-Oct |
|-------|------------|--------------------------|---------|---------|---------|---------|---------|---------|
| 1 | 1KS14EC101 | SOWJANYA K N | Sjn | Sjn | Sjn | Sjn | Sjn | Sjn |
| 2 | 1KS15EC422 | HARSHA S | HS | HS | HS | HS | HS | HS |
| 3 | 1KS16EC002 | AALIYA ZAINAB | AA | AA | AA | AA | AA | AA |
| 4 | 1KS16EC003 | ABHISHEK.A.NANDYAL | AB | AB | AB | AB | AB | AB |
| 5 | 1KS16EC004 | ADITHYA.D.M | A | A | A | A | A | A |
| 6 | 1KS16EC006 | AKASH MAHANTESH HOSAMANI | Aku | Aku | Aku | Aku | Aku | Aku |
| 7 | 1KS16EC009 | ANIRUDH.K.N | A | A | A | A | A | A |
| 8 | 1KS16EC010 | ANUSHA RAJ.D | AR | AR | AR | AR | AR | AR |
| 9 | 1KS16EC011 | ASHIK.B.N | AS | AS | AS | AS | AS | AS |
| 10 | 1KS16EC013 | ASHWINI.S | A | A | A | A | A | A |
| 11 | 1KS16EC014 | AYUSH RAJ | Ayush | Ayush | Ayush | Ayush | Ayush | Ayush |
| 12 | 1KS16EC015 | BHAGYA SHREE.S.J | Bg | Bg | Bg | Bg | Bg | Bg |
| 13 | 1KS16EC016 | BHARATH.R | Bhr | Bhr | Bhr | Bhr | Bhr | Bhr |
| 14 | 1KS16EC017 | BHOOMIKA.P.M | Boomi | Boomi | Boomi | Boomi | Boomi | Boomi |
| 15 | 1KS16EC018 | BRUNDA.S | B | B | B | B | B | B |
| 16 | 1KS16EC019 | CHANDANA.R | Chn | Chn | Chn | Chn | Chn | Chn |
| 17 | 1KS16EC020 | CHARAN.A | Cha | Cha | Cha | Cha | Cha | Cha |
| 18 | 1KS16EC022 | DEEMANTH.K.P | Dm | Dm | Dm | Dm | Dm | Dm |
| 19 | 1KS16EC023 | DEEPA.R | Dp | Dp | Dp | Dp | Dp | Dp |
| 20 | 1KS16EC024 | DEEPAK LAMANI | Deepak | Deepak | Deepak | Deepak | Deepak | Deepak |
| 21 | 1KS16EC025 | DEEPIKA.M | Deepika | Deepika | Deepika | Deepika | Deepika | Deepika |
| 22 | 1KS16EC026 | DIVYALAKSHMI.G | Diva | Diva | Diva | Diva | Diva | Diva |
| 23 | 1KS16EC028 | HARSHINI.B.S | Harsn | Harsn | Harsn | Harsn | Harsn | Harsn |
| 24 | 1KS16EC030 | H.M.NIKHIL JAMADAGNI | H | H | H | H | H | H |
| 25 | 1KS16EC031 | JAYAM HARESH THARUN | Jay | Jay | Jay | Jay | Jay | Jay |
| 26 | 1KS16EC032 | JEEVITHA KALAASHILPA.N.C | J | J | J | J | J | J |
| 27 | 1KS16EC034 | KADRI SRINIDHI RAO | S | S | S | S | S | S |
| 28 | 1KS16EC035 | KARTHIK.K | Karthik | Karthik | Karthik | Karthik | Karthik | Karthik |
| 29 | 1KS16EC036 | KOMAL KHANDLWAL | Komal | Komal | Komal | Komal | Komal | Komal |
| 30 | 1KS16EC037 | KRISHNA.D | Kp | Kp | Kp | Kp | Kp | Kp |
| 31 | 1KS16EC039 | L.S.BABY RAM | LR | LR | LR | LR | LR | LR |

| SL.NO | USN | NAME OF THE STUDENT | 21-Oct | 22-Oct | 23-Oct | 24-Oct | 25-Oct | 26-Oct |
|-------|------------|----------------------------------|--------|--------|--------|--------|--------|--------|
| 32 | 1KS16EC040 | LAKSHMI PRIYA.K | Lak | Lak | Lak | Lak | Lak | Lak |
| 33 | 1KS16EC041 | LIKHITHA.Y | Ly | Ly | Ly | Ly | Ly | Ly |
| 34 | 1KS16EC042 | LOKESH.S | Lov | Lov | Lov | Lov | Lov | Lov |
| 35 | 1KS16EC043 | SURYA.M | Su | Su | Su | Su | Su | Su |
| 36 | 1KS16EC044 | MADHU.G | M | M | M | M | M | M |
| 37 | 1KS16EC045 | MADHU.N | Madh | Madh | Madh | Madh | Madh | Madh |
| 38 | 1KS16EC047 | MANIKANTAN.G | MA | MA | MA | MA | MA | MA |
| 39 | 1KS16EC048 | MANJUNATHA.B.S | Mom | Mm | Mmm | Mmm | Mmm | Mmm |
| 40 | 1KS16EC049 | MEENAKSHI.A | Menk | Mey | Mev | Mevs | Mevs | Mevs |
| 41 | 1KS16EC050 | MEGHASHREE.V | Meg | Meg | Meg | Meg | Meg | Meg |
| 42 | 1KS16EC051 | MOHAMMED WALEED | M | M | M | M | M | M |
| 43 | 1KS16EC052 | NAMITA.L.RAO | NR | NR | NR | NR | NR | NR |
| 44 | 1KS16EC053 | NAMRATHA.G | N | N | N | N | N | N |
| 45 | 1KS16EC054 | NAMRATHA.G | Ng | Ng | Ng | Ng | Ng | Ng |
| 46 | 1KS16EC055 | NANDANGOWDA.S.H | NA | NA | NA | NA | NA | NA |
| 47 | 1KS16EC056 | NAVEEN | Nave | Nave | Nave | Nave | Nave | Nave |
| 48 | 1KS16EC057 | NEHA.J.KOTWAL | Nef | Nef | Nef | Nef | Nef | Nef |
| 49 | 1KS16EC058 | NEHA.N.V | Nef | Nef | Nef | Nef | Nef | Nef |
| 50 | 1KS16EC059 | NIKITA BALAPPA NARASANNAVAR | Nik | Nik | Nik | Nik | Nik | Nik |
| 51 | 1KS16EC419 | KUMARA B N | Kuma | Kuma | Kuma | Kuma | Kuma | Kuma |
| 52 | 1KS16EC422 | MEGHA | Megha | Megha | Megha | Megha | Megha | Megha |
| 53 | 1KS16EC430 | RAKESH K.M. | Rakesh | Rakesh | Rakesh | Rakesh | Rakesh | Rakesh |
| 54 | 1KS17EC400 | ARPITHA.C.V | AR | AR | AR | AR | AR | AR |
| 55 | 1KS17EC402 | ASOK KUMAR | AK | AK | AK | AK | AK | AK |
| 56 | 1KS17EC404 | CHANDRAKALA.K.S | Chs | Chs | Chs | Chs | Chs | Chs |
| 57 | 1KS17EC405 | CHANDU P J | CPJ | CPJ | CPJ | CPJ | CPJ | CPJ |
| 58 | 1KS17EC406 | HARITHA K | Har | Har | Har | Har | Har | Har |
| 59 | 1KS14EC068 | POOJA P G | Pog | Pog | Pog | Pog | Pog | Pog |
| 60 | 1KS14EC107 | SUMUKHA S RAM | Su | Su | Su | Su | Su | Su |
| 61 | 1KS14EC117 | YASH RAI | YR | YR | YR | YR | YR | YR |
| 62 | 1KS15EC071 | PUCHAKAYALA HEMANATH CHOWDARY | Hem | Hem | Hem | Hem | Hem | Hem |
| 63 | 1KS15EC099 | SURYA.K.B | Su | Su | Su | Su | Su | Su |
| 64 | 1KS16EC060 | ONKAR MISHRA | Ok | Ok | Ok | Ok | Ok | Ok |
| 65 | 1KS16EC061 | POOJA.K | Po | Po | Po | Po | Po | Po |


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| SL.NO | USN | NAME OF THE STUDENT | 21-Oct | 22-Oct | 23-Oct | 24-Oct | 25-Oct | 26-Oct |
|-------|------------|-------------------------------|--------|--------|--------|--------|--------|--------|
| 29 | 1KS16EC096 | SUDHANSHU.S.SHARMA | | | | | | |
| 30 | 1KS16EC097 | SUHAS.K | Suhas | Suhas | Suhas | Suhas | Suhas | Suhas. |
| 31 | 1KS16EC098 | SUHAS.M.V | Su | Su | Su | Su | Su | Su |
| 32 | 1KS16EC099 | SUMA.B.S | S | S | S | S | S | S |
| 33 | 1KS16EC102 | T.G.NITHYA | N | N | N | N | N | N |
| 34 | 1KS16EC103 | TEJAS.P | Tejas | Tejas | Tejas | Tejas | Tejas | Tejas |
| 35 | 1KS16EC105 | VARSHINI.K.S | V | V | V | V | V | V |
| 36 | 1KS16EC106 | VASUDEVA UPADHYA.K.S | Vasuv | Vasuv | Vasuv | Vasuv | Vasuv | Vasuv |
| 37 | 1KS16EC108 | VIDHYA.K.S | Vid | Vid | Vid | Vid | Vid | Vid |
| 38 | 1KS16EC109 | VIDYA.B | Vid | Vid | Vid | Vid | Vid | Vid |
| 39 | 1KS16EC111 | VIGNESHKUMAR.V | Vign | Vign | Vign | Vign | Vign | Vign |
| 40 | 1KS16EC112 | VINAY.N | Vin | Vin | Vin | Vin | Vin | Vin |
| 41 | 1KS16EC114 | VINOD KUMAR.P | Vin | Vin | Vin | Vin | Vin | Vin |
| 42 | 1KS16EC115 | VISMITHA SONNA SATHYANARAYANA | V | V | V | V | V | V |
| 43 | 1KS16EC116 | VIVEK.R | Vivek | Vivek | Vivek | Vivek | Vivek | Vivek. |
| 44 | 1KS16EC401 | AKASH B N | Ak | Ak | Ak | Ak | Ak | Ak |
| 45 | 1KS16EC416 | ISHWAR MANNIKERI | Is | Is | Is | Is | Is | Is |
| 46 | 1KS17EC407 | HARSHA C M | Har | Har | Har | Har | Har | Har |
| 47 | 1KS17EC408 | HARSHITH . K | Harsh | Harsh | Harsh | Harsh | Harsh | Harsh |
| 48 | 1KS17EC409 | PRABHAVATHI.K | Pratha | Pratha | Pratha | Pratha | Pratha | Pratha |
| 49 | 1KS17EC413 | TEJASWINI B | Tej | Tej | Tej | Tej | Tej | Tej |


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K.S. INSTITUTE OF TECHNOLOGY, BANGALORE – 560109

A Report on Value Added Course Computer Aided Design and Computer Aided Manufacturing for Industrial Application

Date of Conduction: 04-11-2019 to 09-11-2019

Venue: K S Institute of Technology

Time: 9.00 AM TO 4.00 PM

Duration: 6 days

Sponsoring Bodies / Associating Organization: Nil

Expert Details – Prof. Girish T R, Prof. Manjunatha B R, Prof. Harish U

Description of the Event:

Introduction:

In today's rapidly evolving engineering landscape, proficiency in Computer-Aided Design (CAD) and Computer-Aided Manufacturing (CAM) is essential for engineers to stay competitive and meet the demands of modern industries. To equip Mechanical Engineering students with the necessary skills and knowledge in these critical areas, a comprehensive six-day Faculty Development Program (FDP) on CAD/CAM was conducted.

The course aimed to provide participants with a deep understanding of CAD/CAM principles, advanced modeling techniques, CNC machining operations, and the integration of CAD and CAM processes. Through a combination of theoretical lectures, hands-on sessions, and project work, participants were guided through the intricacies of CAD/CAM software and their practical applications in design and manufacturing.

The introductory day set the stage by familiarizing participants with the fundamentals of CAD/CAM, highlighting its significance in modern engineering and its wide-ranging applications across industries. Subsequent days delved into more advanced topics, including 3D modeling, assemblies, parametric design, CNC machining principles, toolpath generation, and CAM optimization.

Day 1: Introduction to CAD/CAM

- Lecture: Overview of CAD/CAM, its significance in modern engineering, and its applications across various industries.
- Hands-on Session: Introduction to CAD software, basic drawing tools, and commands.
- Outcome: Participants gained an understanding of CAD/CAM fundamentals and started to familiarize themselves with CAD software.

Day 2: Advanced CAD Modeling

- Lecture: Advanced modeling techniques including 3D modeling, assemblies, and parametric design.
- Hands-on Session: Participants practiced creating complex 3D models, assemblies, and applying parametric constraints.
- Outcome: Participants acquired advanced CAD modeling skills and learned how to create complex designs efficiently.

Day 3: Introduction to CIM

- Lecture: Introduction to CAM principles, CNC machining, and toolpath generation.
- Hands-on Session: CAM software demonstration, toolpath simulation, and generating G-codes for CNC machining.
- Outcome: Participants understood the basics of CAM and gained practical experience in generating toolpaths for CNC machining.

Day 4: CNC Machining and Simulation

- Lecture: CNC machine operations, tooling, feeds, and speeds, along with simulation software.
- Hands-on Session: CNC machine operation simulation using CAM software, tool selection, and optimization.
- Outcome: Participants gained proficiency in CNC machining concepts and learned how to simulate and optimize machining processes.

Day 5: Integration of CAD/CAM

- Lecture: Integration of CAD and CAM, design for manufacturability, and CAM toolpath optimization.
- Hands-on Session: Participants integrated CAD models with CAM software, optimized toolpaths, and simulated manufacturing processes.
- Outcome: Participants learned how to seamlessly integrate CAD and CAM processes and optimize designs for manufacturing.

Day 6: Project Work and Evaluation

- Project Assignment: Participants worked on a CAD/CAM project incorporating concepts learned during the course.
- Evaluation: Project presentations, assessment of design quality, manufacturability, and CAM optimization.
- Outcome: Participants showcased their CAD/CAM skills through project presentations, receiving feedback for improvement.

Participant details – 5th Semester students of Mechanical Engineering -135 students



Conclusion:

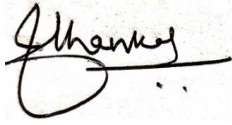
The Value Added Course on CAD/CAM was a resounding success, providing participants with a comprehensive understanding of the principles and applications of computer-aided design and manufacturing. Through a combination of lectures, hands-on sessions, and project work, participants acquired practical skills and knowledge essential for success in modern engineering industries. The course has empowered participants to become proficient CAD/CAM practitioners, ready to tackle the challenges of designing and manufacturing innovative products in today's competitive environment.

Course Outcomes:

- Participants gained comprehensive knowledge and practical skills in CAD/CAM, enabling them to design and manufacture complex components efficiently.
- They learned advanced modeling techniques, CNC machining operations, and CAM toolpath generation, simulation, and optimization.
- The hands-on sessions and project work provided participants with valuable practical experience, enhancing their problem-solving abilities and creativity.
- Participants learned how to integrate CAD and CAM processes seamlessly, optimizing designs for manufacturability and efficiency.
- The FDP equipped participants with skills that are highly sought after in various industries, preparing them for careers in design, manufacturing, and engineering.

CO/PO&PSO-Mapping:

| CO/PO&P SO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 |
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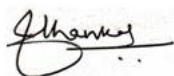


Dr. Umashankar
Professor & Head ME



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| 125 | IKS18ME430 | SHARANABASAPPA S HUNAGUND | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan |
| 126 | IKS18ME431 | SHARATH GOWDA P S | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan |
| 127 | IKS18ME432 | SHIVARAJ R | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan |
| 128 | IKS18ME433 | SHIVU.S | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan |
| 129 | IKS18ME434 | SRIHARI R | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan |
| 130 | IKS18ME435 | SRINIVASAMURTHY Y R | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan |
| 131 | IKS18ME436 | SUMANTH K | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan |
| 132 | IKS18ME437 | VINAY C | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan |
| 133 | IKS18ME438 | VINAY Y | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan |
| 134 | IKS18ME439 | VISHNU PRAKASH M P | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan |
| 135 | IKS18ME440 | YATEESH JAMADADE | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan | Shan |



Dr. Umashankar
Professor & Head ME Dept.



Dr. T.V Govindaraju
Principal & Director



K.S. INSTITUTE OF TECHNOLOGY, BANGALORE – 560109

A Report on Value Added Course

Industrial Automation and Robotics

Date of Conduction: 21-10-2019 to 26-10-2019

Venue: K S Institute of Technology

Time: 9.00 AM TO 4.00 PM

Duration: 6 days

Sponsoring Bodies / Associating Organization: Nil

Expert Details – Prof. Umashankar M, Prof. Anilkumar A, Prof. Harish U

Description of the Event:

Introduction:

Industrial Automation and Robotics are revolutionizing manufacturing and production processes across various industries, leading to increased efficiency, precision, and productivity. To equip Mechanical Engineering students with essential skills and knowledge in this transformative field, a Value Added Course (VAC) on Industrial Automation and Robotics is designed to provide hands-on training and theoretical insights into the latest technologies and practices.

The course spans six days, covering a range of topics from fundamental concepts to advanced applications. Participants will delve into the intricacies of automation systems, including Programmable Logic Controllers (PLCs), sensors, actuators, and robotic systems. Through a combination of lectures, hands-on sessions, case studies, and project work, students will gain practical experience in designing, programming, and implementing automated solutions.

Day 1: Introduction to Industrial Automation and Robotics

- **Overview of Industrial Automation:** Definition, importance, and applications in various industries.
- **Introduction to Robotics:** Types of robots, components, and their applications.
- **Basic Concepts in Automation:** Sensors, actuators, PLCs (Programmable Logic Controllers), and their functions.
- **Outcomes:** Participants gain an understanding of the basic concepts of industrial automation and robotics, setting the foundation for further learning.

Day 2: PLC Programming and Control Systems

- **Programming Languages:** Introduction to ladder logic, function block diagram, and structured text.

- **PLC Hardware and Software:** Familiarization with PLC hardware components and programming software.
- **Control Systems:** Basics of feedback control systems, PID control, and tuning.
- **Hands-on Session:** Participants practice programming simple control tasks on PLCs.
- **Outcomes:** Participants learn to program PLCs for basic control tasks and understand the principles of control systems.

Day 3: Sensors and Actuators in Automation

- **Types of Sensors:** Proximity sensors, encoders, limit switches, and their applications.
- **Actuators:** Types of actuators such as motors, pneumatic and hydraulic actuators.
- **Integration with PLCs:** Connecting sensors and actuators to PLCs and programming for control.
- **Case Studies:** Real-world examples of sensor-actuator applications in automation.
- **Outcomes:** Participants understand the types and principles of sensors and actuators and learn how to integrate them into automated systems.

Day 4: Robotic Systems and Programming

- **Robotic Kinematics:** Basics of robot motion, forward and inverse kinematics.
- **Robot Programming Languages:** Teach pendant programming, offline programming, and simulation.
- **Applications of Robotics:** Industrial applications, collaborative robots, and future trends.
- **Hands-on Session:** Participants program a robot to perform simple tasks.
- **Outcomes:** Participants gain practical experience in robot programming and understand the capabilities and limitations of robotic systems.

Day 5: Advanced Topics in Automation

- **Industrial Communication Protocols:** Introduction to fieldbuses such as Profibus, Modbus, and Ethernet/IP.
- **SCADA (Supervisory Control and Data Acquisition):** Basics of SCADA systems and HMI (Human-Machine Interface) design.
- **Safety in Automation:** Risk assessment, safety standards, and safety PLC programming.
- **Outcomes:** Participants learn about advanced automation topics and understand the importance of communication protocols and safety in industrial automation.

Day 6: Project Work and Evaluation

- **Project Presentation:** Participants present their projects incorporating concepts learned during the course.
- **Evaluation:** Assessments of individual or group projects, quizzes, and feedback sessions.
- **Discussion on Future Learning:** Further avenues for learning and career opportunities in industrial automation and robotics.
- **Outcomes:** Participants showcase their understanding and application of industrial automation and

robotics concepts through project presentations and receive feedback for improvement.

Participant details – 7th Semester students of Mechanical Engineering -135 students



Conclusion:

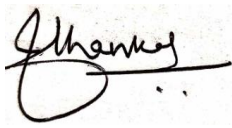
The Value Added Course on Industrial Automation and Robotics has provided Mechanical Engineering students with a solid foundation in one of the most dynamic and impactful fields of modern engineering. Over the six days, participants have engaged in theoretical learning, hands-on activities, and project work, gaining practical skills and knowledge essential for success in the industry.

Course Outcomes:

- Participants gain a comprehensive understanding of industrial automation and robotics principles and technologies.
- They develop practical skills in PLC programming, robot programming, and integrating sensors and actuators into automated systems.
- Participants learn about the latest trends and applications in the field, preparing them for careers in industries where automation and robotics are essential.
- The FDP enhances participants' problem-solving abilities and fosters creativity in designing automated solutions.
- Participants develop teamwork and communication skills through hands-on activities and project work.

CO/PO&PSO-Mapping:

| CO/PO&P SO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 |
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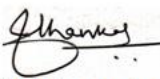


Dr. Umashankar
Professor & Head ME



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| 125 | IKS17ME430 | RAKESH.B.R | Rakesh | Rakesh | Rakesh | Rakesh | Rakesh | Rakesh | Rakesh | Rakesh | Rakesh | Rakesh | Rakesh | Rakesh | Rakesh |
| 126 | IKS17ME431 | RAKSHITH.L | Rakshith | Rakshith | Rakshith | Rakshith | Rakshith | Rakshith | Rakshith | Rakshith | Rakshith | Rakshith | Rakshith | Rakshith | Rakshith |
| 127 | IKS17ME432 | RAVI.K.R | Ravi | Ravi | Ravi | Ravi | Ravi | Ravi | Ravi | Ravi | Ravi | Ravi | Ravi | Ravi | Ravi |
| 128 | IKS17ME434 | SHASHANK.Y.K | Shashank | Shashank | Shashank | Shashank | Shashank | Shashank | Shashank | Shashank | (A) | Shashank | Shashank | Shashank | Shashank |
| 129 | IKS17ME435 | SHASHIKUMAR.C.R | Shashi | Shashi | Shashi | Shashi | Shashi | Shashi | Shashi | Shashi | Shashi | Shashi | Shashi | Shashi | Shashi |
| 130 | IKS17ME437 | SRINIVASA.B.V | Srinivasa | Srinivasa | Srinivasa | Srinivasa | Srinivasa | (B) | Srinivasa | Srinivasa | Srinivasa | Srinivasa | Srinivasa | Srinivasa | Srinivasa |
| 131 | IKS17ME439 | SURABHI.N | Surabhi | Surabhi | Surabhi | Surabhi | Surabhi | Surabhi | Surabhi | Surabhi | Surabhi | Surabhi | Surabhi | Surabhi | Surabhi |
| 132 | IKS17ME440 | SUSHMA.Y.S | Sushma | Sushma | Sushma | Sushma | Sushma | Sushma | Sushma | Sushma | Sushma | Sushma | Sushma | Sushma | Sushma |
| 133 | IKS17ME441 | TEJAS.P.N | Tejas | Tejas | Tejas | Tejas | Tejas | Tejas | Tejas | Tejas | Tejas | Tejas | Tejas | Tejas | Tejas |
| 134 | IKS17ME442 | THRIVENI.M | Thriveni | Thriveni | Thriveni | Thriveni | Thriveni | Thriveni | Thriveni | Thriveni | Thriveni | Thriveni | Thriveni | Thriveni | Thriveni |
| 135 | IKS17ME444 | VINAY.S | Vinay | Vinay | Vinay | Vinay | Vinay | Vinay | Vinay | Vinay | Vinay | Vinay | Vinay | Vinay | Vinay |


Dr. Umashankar
 Professor & Head ME Dept.


Dr. T.V Govindaraju
 Principal & Director



K.S. INSTITUTE OF TECHNOLOGY, BANGALORE – 560109

Application of Internet of Things

Date of Conduction: 26-8-2019 to 31-8-2019

Venue: K. S. INSTITUTE OF TECHNOLOGY

Time: 9.00 AM TO 4.00 PM

Duration: 6 days

Sponsoring Bodies / Associating Organization: Nil

Expert Details – Prof. Krishna Gudi, Prof. Roopesh Kumar, Prof. Vaneeta M, Prof. Deepa .S.R, Prof. Santhosh Kumar, Dr. B. Sudarshan

Description of the Event: Applications of Internet of Things

- 1. IOT and advanced Python Programming usage of ESP 32-WROOM**
- 2. LDR Sensor Module, IR Sensors, Motion Sensor**
- 3. Ultrasonic Sensor, Servo Motor, DC motor**
- 4. Buzzer, OLED, Moisture Sensor, Gas and Smoke Sensor**

Participant details – 3rd Semester students of CSE, ECE, ME Department -302 students





TRAINING OUTLINE

Objectives:

- Understanding the concept of IOT
- To gain an understanding of Internet of things using python features and their uses in developing applications.
- Understand the internals of Internet of things by connecting node devices to gateway and gateway devices to cloud and by collecting things data.
- Analyzing the data and act upon the data from the cloud.
- Exposure to technologies used in building an IOT solution

Pre-requisites:

- Basic programming and Hardware knowledge
- Basic knowledge of Python
- Basic knowledge of Microcontrollers
- Basic knowledge of Linux

Tools and Resources Used:

- Raspberry Pi 3 + micro USB cable
- Internet connectivity and Ethernet cable

- USB keyboard and mouse
- Monitor, HDMI to Serial converter
- Windows 7(or higher) system to download and port Raspberry Pi OS on Raspberry Pi 3

Outcomes:

- Explore Raspberry-pi with Python scripts
- Discover how to work with Internet of things
- Interfacing sensors with Raspberry-pi
- Analyze the data and work with cloud
- Use Raspberry pi as a server to control the things
- Master the fundamentals of IOT by building project

Course Contents

DAY 1

Introduction to IOT

What is IOT?

Why do we need IOT?

How does IOT work?

IOT Architecture- Components of IOT

How Does an IoT Gateway Device Work?

RASPBERRY PI

Introduction to Raspberry Pi 3 model B

Raspbian OS:

- Setting up Raspbian OS on SD card
- Raspberry Pi hardware setup
- Basic Raspbian OS commands

DAY 2

Raspberry pi GPIO programming.

Working with GPIO

- Flashing an LED
- Interfacing LCD

- Developing LCD package in python

DAY 3

Interfacing Sensor to RPi

Interfacing DHT11 sensor to Rpi

Interfacing LDR Sensor to RPI

Interfacing ultrasonic distance Sensor to RPI

Interfacing PIR Sensor to Rpi

DAY 4

Cloud Computing

Connecting to cloud

Creating Thingspeak account

- REST API
Using Thingspeak API to upload data to cloud
Connecting using MQTT

DAY 5

Setting RPi as a server

Setting RPi as a http server

installing the packages to setup server

Hosting the serv

Creating the Web pages

DAY 6

Mail transfer through SMTP

Introduction to SMTP

Configuring smtp configuration file (ssmtp.conf)

Sending messages through email

Outcomes / Benefits:

1. Students understood the Python programming concept.
2. Students understood the applications of ESP 32, IOT board and its interface
3. Students implemented mini Projects using ESP 32 board and its interfaces.

CO/PO&PSO mapping

| CO/PO&PSO | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO 1 | PSO 2 |
|-----------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|----------|----------|
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| | | | 26/8/2019 | 27/8/2019 | 28/8/2019 | 29/8/2019 | 30/8/2019 | 31/8/2019 |
| 33 | IKS18CS034 | KRITHIKA.K.N | | | | | | |
| 34 | IKS18CS035 | KRUTHIKA.S.VASISHT | | | | | | |
| 35 | IKS18CS036 | LEKKALA SHARANDEEP CHOWDARY | | | | | | |
| 36 | IKS18CS037 | LATHA V | | | | | | |
| 37 | IKS18CS038 | LAVANYA.C.R | | | | | | |
| 38 | IKS18CS039 | LIKHITHA.N | | | | | | |
| 39 | IKS18CS040 | LOKESH R | | | | | | |
| 40 | IKS18CS041 | MADDULA JITENDRA | | | | | | |
| 41 | IKS18CS042 | MADHUSUDHAN.S.R | | | | | | |
| 42 | IKS18CS043 | MAHARAJ S | | | | | | |
| 43 | IKS18CS044 | MAHESH B V | | | | | | |
| 44 | IKS18CS045 | MANIKONDA THARUN | | | | | | |
| 45 | IKS18CS046 | MANVITH P | | | | | | |
| 46 | IKS18CS047 | MD SUJAN | | | | | | |
| 47 | IKS18CS048 | MEGHANA J | | | | | | |
| 48 | IKS18CS049 | MEGHASHREE A | | | | | | |
| 49 | IKS18CS050 | MIKKIN K M | | | | | | |
| 50 | IKS18CS051 | MONICA S | | | | | | |
| 51 | IKS18CS052 | MONIKA.K.C | | | | | | |
| 52 | IKS18CS053 | MOPURI SREELAKSHMI | | | | | | |
| 53 | IKS18CS054 | N SAI JAHANAVI | | | | | | |
| 54 | IKS18CS055 | NAGARJUN N | | | | | | |
| 55 | IKS18CS056 | NANDINI J K | | | | | | |
| 56 | IKS18CS057 | NARASIMHA MAIYA G S | | | | | | |
| 57 | IKS18CS058 | NARASIMHARAJU R | | | | | | |
| 58 | IKS18CS059 | NIKHIL.M | | | | | | |
| 59 | IKS18CS060 | NIKHIL VASAN | | | | | | |
| 60 | IKS18CS061 | NIKIL B S | | | | | | |
| 61 | IKS18CS062 | NIKITHA M | | | | | | |
| 62 | IKS18CS063 | NTTISH KUMAR.M.R | | | | | | |
| 63 | IKS18CS064 | NOOR SUMAIYA | | | | | | |
| 64 | IKS18CS065 | P SAI RAM | | | | | | |
| 65 | IKS18CS066 | PAVAN P | | | | | | |
| 66 | IKS18CS067 | POOJASHREE K | | | | | | |
| 67 | IKS18CS068 | PRAJWAL.N | | | | | | |
| 68 | IKS18CS069 | PRANAV M S | | | | | | |
| 69 | IKS18CS070 | PRATEEK HAVALE | | | | | | |

| Sl.No. | USN | NAME | Signature | | | | | |
|--------|------------|----------------------|-----------|-----------|-----------|-----------|-----------|-----------|
| | | | 26/8/2019 | 27/8/2019 | 28/8/2019 | 29/8/2019 | 30/8/2019 | 31/8/2019 |
| 255 | IKS18ME051 | Prerana A M | A | A | A | A | A | A |
| 256 | IKS18ME038 | S N Naga Nitheesh | A | A | A | A | A | A |
| 257 | IKS18ME070 | Sahas hj | S | S | S | S | S | S |
| 258 | IKS18ME052 | Rahul BN | Ra | Ra | Ra | Ra | Ra | Ra |
| 259 | IKS18ME054 | RAKSHITH A | Rk | Rk | Rk | Rk | Rk | Rk |
| 260 | IKS18ME053 | Rahul P | R | R | R | R | R | R |
| 261 | IKS18ME009 | Ashish Vilas Jadhav | A | A | A | A | A | A |
| 262 | IKS18ME021 | Hemant Kumar M P | Hm | Hm | Hm | Hm | Hm | Hm |
| 263 | IKS18ME030 | LOKESH G | Lk | Lk | Lk | Lk | Lk | Lk |
| 264 | IKS17ME005 | AKASH H S | A | A | A | A | A | A |
| 265 | IKS19ME409 | Prajwal s | P | P | P | P | P | P |
| 266 | IKS18ME003 | AKSHAY S A | A | A | A | A | A | A |
| 267 | IKS18ME007 | Anupama V | An | An | An | An | An | An |
| 268 | IKS18ME011 | Bharath | B | B | B | B | B | B |
| 269 | IKS18ME072 | Sumukha Venkatesh | Sv | Sv | Sv | Sv | Sv | Sv |
| 270 | IKS18ME064 | SHARAN V KUMAR | Sk | Sk | Sk | Sk | Sk | Sk |
| 271 | IKS19ME415 | YOGANANDA A N | Y | Y | Y | Y | Y | Y |
| 272 | IKS18ME069 | Srinivasa R | S | S | S | S | S | S |
| 273 | IKS18ME069 | Srinivas R | SR | SR | SR | SR | SR | SR |
| 274 | IKS18ME020 | HARSHA P | H | H | H | H | H | H |
| 275 | IKS18ME036 | Mohan Raju G | M | M | M | M | M | M |
| 276 | IKS18ME016 | Dhanush B M | D | D | D | D | D | D |
| 277 | IKS18ME060 | Sanjay Rao G | Sr | Sr | Sr | Sr | Sr | Sr |
| 278 | IKS18ME037 | Mohith j | M | M | M | M | M | M |
| 279 | IKS18ME054 | RAKSHITH A | Rk | Rk | Rk | Rk | Rk | Rk |
| 280 | IKS18ME018 | Harish B | Hb | Hb | Hb | Hb | Hb | Hb |
| 281 | IKS18ME052 | Rahul BN | Ra | Ra | Ra | Ra | Ra | Ra |
| 282 | IKS18ME016 | Dhanush B M | D | D | D | D | D | D |
| 283 | IKS18ME061 | Sankarshan Deshpande | SD | SD | SD | SD | SD | SD |
| 284 | IKS18ME053 | Rahul P | R | R | R | R | R | R |
| 285 | IKS18ME021 | Hemant Kumar M P | Hm | Hm | Hm | Hm | Hm | Hm |
| 286 | IKS18ME017 | G DEVENDRA | G | G | G | G | G | G |
| 287 | IKS18ME062 | Santhosh k | S | S | S | S | S | S |
| 288 | IKS18ME403 | Akhil A Purohit | A | A | A | A | A | A |
| 289 | IKS19ME416 | YOGESH HM | Y | Y | Y | Y | Y | Y |
| 290 | IKS18ME005 | Anirudh R Srivatsa | A | A | A | A | A | A |
| 291 | IKS18ME043 | NITHIN KUMAR K S | N | N | N | N | N | N |

| Sl.No. | USN | NAME | Signature | | | | | |
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| | | | 26/8/2019 | 27/8/2019 | 28/8/2019 | 29/8/2019 | 30/8/2019 | 31/8/2019 |
| 292 | 1KS18ME068 | Sohith S | Sohith | Sohith | Sohith | Sohith | Sohith | Sohith |
| 293 | 1KS18ME076 | TEJAS AB | AB | AB | AB | AB | AB | AB |
| 294 | 1KS18ME424 | Nihal. M. P | Nihal | Nihal | Nihal | Nihal | Nihal | Nihal |
| 295 | 1KS18ME015 | Bhaskar R | B | B | B | B | B | B |
| 296 | 1KS18ME034 | MOHAMMAD - SAIF - ULLA - AMEEN | Ameen | Ameen | Ameen | Ameen | Ameen | Ameen |
| 297 | 1KS18ME013 | CHEZHAN KUMAR R | R | R | R | R | R | R |
| 298 | 1KS18ME015 | Dhanaraj H D | H.D | H.D | H.D | H.D | H.D | H.D |
| 299 | 1KS18ME042 | Nilotpal Das | Das | Das | Das | Das | Das | Das |
| 300 | 1KS18ME023 | K JEEVAN KUMAR | Kumar | Kumar | Kumar | Kumar | Kumar | Kumar |
| 301 | 1KS18ME039 | Navaneeth Krishna S | S | S | S | S | S | S |


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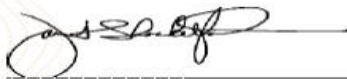
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Dr.Rekha B Venkatapur
Professor & Head CSE Dept

Dr. T.V Govindaraju.
Principal & Director