DEPARTMENT OF ECE

EVENT REPORT

IETE Seminar

IETE Organisational Membership No.   G00609
IETE Students' Forum Chapter No.   ISFC-299

Resource Person	:	Mr. G. Xavier Richards, M.E. Associate Innovation officer, KPR Institute of Engineering and Technology, Avinashi - Coimbatore Road, Arasur, Coimbatore 641407.
Seminar Topic	:	Recent Trends in Embedded and IoT for Product Development
Participants	:	II ECE, III ECE, IV ECE Students
Venue	:	Placement Hall, KiTE
Date	:	28.10.2022
Time	:	10:00 AM to 12:00 PM

Activity Details Index Page

S.No.	Activity Document	Available / Not Available / Not Applicable
1	Approval	Available
2	Communication ~~letter (or)~~ mail / ~~Boucher~~ /Invitation	Available
3	Schedule / Agenda	Available
4	Profile of the Expert	Available
5	One page write up on the event	Available
6	Certificate - If any / Prize	Not Applicable
7	List of Participants / Audience	Available
8	Attendance / Beneficiary	Available
9	Photos ~~/ Videos~~	Available
10	Appreciation letter to Expert	Available
11	Statement of Expenditure	Available
12	Event Report / Proceeding's	Available
13	on/off line - feedback / oral feedback recording	Available
14	PPT / material	Available
15	Paper published in news / media	Available
16	IQAC check list	Available

60/11

KGiSL Institute of Technology

(Approved By AICTE, Affiliated to Anna University, Chennai)

KGiSL Campus, Saravanampatti, Coimbatore – 641 035

KGiSL Institute of Technology

Department of Electronics and Communication Engineering

Date: 17/10/2022
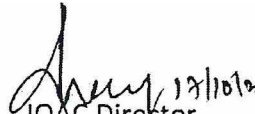
Submitted to the Principal:
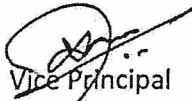
Sub: Permission to conduct IETE Seminar - Reg.

It is proposed to conduct IETE Sponsored Seminar on 28.10.2022. In this regard, we kindly request you to permit us for conduct IETE Sponsored Seminar on the above mentioned date. The program details are given below.
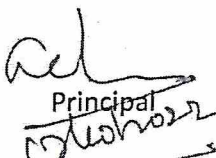
Event Title	:	IETE Sponsored Seminar on "Recent Trends in Embedded & IOT for Product Development"
Date & Time	:	28.10.2022 & 10:00 AM to 12:00 PM
Guest	:	Mr. Xavier Richards.G, Associate Innovation Officer, KPR Institute of Engineering and Technology, Coimbatore.

Staff In-charge

HOD

IQAC Director

Vice Principal

Principal

Secretary
17.10.2022

CEO

KiTE
Industry Embedded Education

Arun M <arun.m@kgkite.ac.in>

Requisition for inviting Chief Guest for IETE Sponsored Seminar - KGISL Institute of Technology -Reg

Arun M <arun.m@kgkite.ac.in>   Wed, Oct 19, 2022 at 1:34 PM
To: xavierrichards.g@kpriet.ac.in

Dear Sir,

Warm Greetings from Department of ECE, KGiSL Institute of Technology

We are planning to conduct an IETE Sponsored Seminar at KGiSL Institute of Technology on 28.10.2022 at 10:00 am to 12:00 pm. In this regard, we would like to invite you as Chief Guest for the same. Kindly accept our Invitation for smooth conduction of this seminar.

-M.Arun,
ASP/ECE,
KiTE.

Requisition for inviting Chief Guest for IETE Sponsored Seminar - KGISL Institute of Technology -Reg

XAVIER RICHARDS. G <xavierrichards.g@kpriet.ac.in>   Wed, Oct 19, 2022 at 3:44 P
To: Arun M <arun.m@kgkite.ac.in>

Dear Sir,
    I accept the invitation for the session on "Recent Trends in Embedded and IoT for Product Development".
[Quoted text hidden]
--

Learn Beyond

Xavier Richards G
Associate Innovation Officer

M: +91 887 083 3282

KPR Institute of Engineering and Technology
Avinashi Road, Arasur, Coimbatore, 641407 - India

Great Place To Work. Certified

THE IMPACT RANKINGS 2022
601 - 800 Band

nirf
201 - 250 Band

QS I·GAUGE
INDIAN UNIVERSITY RATING
DIAMOND

INSTITUTION'S INNOVATION COUNCIL
(Ministry of HRD Initiative)
4 Star Rating

KGiSL Institute of Technology

(Approved By AICTE, Affiliated to Anna University, Chennai)

KGiSL Campus, Saravanampatti, Coimbatore – 641 035

Department of Electronics and Communication Engineering

IETE Seminar

IETE Organisational Membership No. G00609

&

IETE Students' Forum Chapter No. ISFC-299

28.10.2022

AGENDA:

10.00 AM - 10.05 AM   :   Prayer Song

10.05 AM - 10.10 AM   :   Welcome Address by Dr. M. Arun

10.10 AM - 10.15 AM   :   Presidential Address by Dr. M. Selvam

10.15 AM - 12.15 PM   :   Seminar on "Recent Trends in Embedded and IoT for

Product Development"

Mr. G. Xavier Richards,

Associate Innovation officer,

KPR Institute of Engineering and Technology.

12.15 PM - 12.25 PM   :   Vote of Thanks by Dr.C.Venkatesh

12.25 PM - 12.30 PM   :   National Anthem

G. XAVIER RICHARDS, M.E.

S/O S. Gunasekaran,
Nellaimatha stores,
Muniyappankovil,
Pallakaplayam post,
Sankari West,
Namakkal-637303.
E-mail id: **xavierrichards1990@gmail.com**
Mobile: +91 8870833282, 8015790793

OBJECTIVE

To be associated with a progressive organization that gives me an opportunity to apply my knowledge and skills in order to keep abreast with latest trends and technologies.

EDUCATIONAL QUALIFICATION

Institution	Board / University	Course / Degree	Year of Passing	Percentage /CGPA
Excel college of Engineering and Technology, Muniyappankovil	Anna University, Chennai	M.E (Power Electronics & Drives)	2019-2021	7/10 (CGPA)
JKK Nataraja Engineering College, Kumarapalayam	Anna University, Chennai	B E Electrical & Electronics Engineering	2010-2013	7.80/10 (CGPA)
JKK Rangammal Matric and Higher Secondary School, Kumarapalayam.	Matriculation	HSC	2009	76.33 %
JKK Munirajah Matriculation School, Kumarapalayam.	Matriculation	SSLC	2007	70.27 %

EXPERIENCE DETAILS

Sl. No	Name of the Industry / Organization	Designation	Duration	
			From	To
1.	Schnell Energy Equipments	Field Engineer	1.8.2013	04.01.2014
2.	Kalycito Infotech	R&D Intern	20.01.2014	7.8.2014
3.	Caliber Embedded	Hardware designer and embedded developer	10.11.2014	11.8.2016
4.	K.P.R Garments Mill Limited	Product Safety Officer	22.8.2016	26.4.2019

5.	JKKN Institutions (6 Colleges + 2 ATL Tinkering lab schools)	Innovation officer	1.5.2019	8.1.2021
6.	KIT-Kalaignarkarunanithi Institute of Technology	Innovation officer	11.1.2021	17.6.2022
7.	KPR Institute of Engineering and Technology	Associate Innovation officer	27.6.2022	Till date

ACHIEVEMETNTS

- ✓ Winner of the Toycathon 2022 at Greater Noida on track-3 Professionals.
- ✓ Mentored and made the prototype for the **TNSI AWARD WINNERS**, 2019, for JKKN College of Pharmacy.
- ✓ Mentored for the **TNSI AWARD WINNERS**, 2020, for JKKN College of Pharmacy.
- ✓ Mentored for the **Start up Mania WINNERS**, 2019, for JKKN College of Dental.
- ✓ Won AIM ATL school of the month,2019 twice for JKKN school.
- ✓ SIH 2022 - 4 teams got selected for the next level of presentation and prototype.

2014 -2016 (CALIBER EMBEDDED)

- ✓ Conducted Hands-on workshop on **Basic Electronics** in Mahendra Engineering College.
- ✓ Conducted Hands-on workshop on **Product making** in Mahendra Engineering College.
- ✓ Conducted Hands-on workshop on **Basic Electronics** in Knowledge Engineering College.
- ✓ Conducted Hands-on workshop on **Embedded Electronics** in Mahendra Engineering college.
- ✓ Conducted Hands-on workshop on **Product Making** in J.K.K.N college of Engineering and Technology.
- ✓ Conducted Hands-on workshop on **Embedded Electronics** in Eswar Engineering college,
- ✓ Conducted Hands-on workshop on **Basic Robotics** in Thiyagarajapolytechnic college.
- ✓ Conducted Hands-on workshop on **Basic Robotics** in SelvamCollege of engineering.
- ✓ Conducted Hands-on workshop on **Product Making** in Gnyanamani Engineering College.
- ✓ Conducted Hands-on workshop on **Advance Electronics** in Paavai Engineering College.
- ✓ Installed Hybrid power system in Vinayaga mission college of Engineering

2016 -2019 (K.P.R GARMENTS MILL LIMITED)

- ✓ **Live video wall display** using Raspberry pi3 to create safety awareness (fire and safety, Electrical safety, First aid etc.) among workers inside the factory.
- ✓ **Fully automated power saver** for cutter machine using wireless in cutting section in and saves money yearly up to 80,000 rupees.
- ✓ **Hour based safety instruction audio player for industry** employee to give instructions in predefined timing. During the programmed timing, songs will be automatically disconnected and instruction will play. After the completion of instruction songs will continue normally.
- ✓ **Fully automated Wireless water tank controller** using Zigbee (200 meters) controlling 3 phase induction motor at KPR Garments Limited, Coimbatore, 2017.
- ✓ **Fully automated LDR based factory street light** control using PIC controller.

- ✓ **Temperature display in DMD P10 scrolling display.**
- ✓ **Chiller plant alarm system** which will automatically call authorize persons during the alert rise by the plant this will reduce the break down time and power saving.
- ✓ Designed a simple **cost effective sensor based automatic safety emergency stopper** for spreading moving machine.
- ✓ Designed basic **real time Velcro cutting machine** using stepper motor.

2019 -2021 (JKKN INSTITUTIONS)

- ✓ Mentored and made the prototype for the **TNSI AWARD WINNERS**, 2019, for JKKN College of Pharmacy.
- ✓ Mentored for the **Start up Mania WINNERS**, 2019, for JKKN College of Dental.
- ✓ Mentored for the **TNSI AWARD WINNERS**, 2020, for JKKN College of Pharmacy.
- ✓ Won AIM ATL school of the month,2019 twice
- ✓ Conducted **Hands on Drone Workshop** for JKKN Matriculation Higher Secondary School students.
- ✓ Conducted **Design Thinking Camp** for ATL School Teachers, 2019, JKKN Group of Institution, Kumarapalayam.
- ✓ Conducted **Innovation Eco-system Meeting** in every week for faculty in JKKN Group of Institutions.
- ✓ Conducted Robotics workshop and awareness program for adopted villages in UBA scheme
- ✓ Designed TFT **touch screen switch box** to avoid the shock for the end user.
- ✓ Designed and implemented cost **effective and efficient 3-D printed auto tap opening product.**
- ✓ Build **autonomous drone worked with RTL mode** where it can return to the launched position.
- ✓ Designed a **sensor & timer based product for sewing industry** to minimize the power and pneumatic equipment's cost.
- ✓ Designed and implemented a **real time object detection using Raspberry pi.**
- ✓ Launched **automatic hand wash machine for covid product (static).**
- ✓ Launched **automatic hand wash machine for covid product (Portable).**
- ✓ Mentored team 1 SIH team went Delhi for finals.
- ✓ Conducted **Robotics and innovation awareness programs in UBA adopted villages.**

2021 -2022 (KIT-KALAIGNARKARUNANITHI INSTITUTE OF TECHNOLOGY)

- ✓ Conducted **Hands on Robotic Workshop** over 300 students, they were benefited and done radio controlled, Bluetooth keypad and voice controlled robot.
- ✓ Under my ideas, **5 Teams were selected for the Toycathon Grand finals.**
- ✓ **Face mask detection with temperature and voice output** build on raspberry pi.
- ✓ **Real time Face recognition with temperature alert and attendance on Excel sheet.**
- ✓ **Real time Digital notice board** which can display HD video, pictures and PDF data can be uploaded through Wi-Fi.
- ✓ **Touch less bathroom light switches**(Product)
- ✓ **Real time IOT solar street light**
- ✓ Designed a **smart handbag for Women Safety (GPS Live tracking and GSM)**
- ✓ **Low cost calling bell with ESP32cam**
- ✓ Multipurpose solar lawn rover with deduster
- ✓ **Real time drowsiness detection and alert for 4 wheeler and heavy vehicles** as an add-on product.

- ✓ **Designed and developed DC motor speed control and tachometer** for PSG bio-tech lab incubation center Coimbatore.
- ✓ Build **prototype** and for **4 SIH teams 2022**
- ✓ Conducted "**Product Design and startup**" session for 1st year and 2nd year student

PATENT PUBLISHED

S.No	TITLE	Application No	Status
1.	Intelligent Automatic Headlight Switching System For All Type Of Vehicles	20224 4000075	Published
2	Solar Based Smart Agro Sprayer For Farmer	202244000078	Published
3	Intelligent Automatic Headlight Switching System For All Type of Vehicles	202244000075	Published
4	Iot Based Automatic Street Light Controller	202244000081	Published
5	Controller Based Intelligent (Cbi) System For Crash Prevention	202244000082	Published
6	Solar Based Dual Purpose Lawn Mower With Deduster	202244000080	Published
7	Vehicle Driver Drowsiness Detecting And Alerting Device (Design Patent)	354134-001	Published
8	Device for Attendance Management with Image Capturing Camera	354124-001	Published

LIST OF WORKSHOP AND SESSIONS CONDUCTED

S.No	Workshop	Year	College	Participants
1	Workshop on Basics Electronics	2014	Mahendra College of Engineering	90
2	Workshop on Product making	2014	Mahendra College of Engineering	100
3	Workshop on Basics Electronics	2014	Knowledge Institute of Technology	60
4	Workshop on Embedded electronics	2014	Mahendra College of Engineering	35
5	Workshop on Product making	2015	JKKNCollege of Engineering	50
6	Workshop on Embedded	2015	EshwarCollege of Engineering	45

			electronics			
7	Workshop on Basic Robotics	2015	Thiagarajar Polytechnic College	40
8	Workshop on Basic Robotics	2016	Selvam College of Technology	110
11	Workshop on making product	2018	Gnyanamani Educational Institutions	57
12	Workshop on Advance electronics	2018	PaavaiCollege of Engineering	80
13	Design thinking workshop for staffs	2019	JKKN Matric Hr. Sec. School	50
14	Design thinking workshop for school students	2019	JKKN Group of Institutions	50
15	Design thinking workshop for engineering college staffs	2019	JKKN Group of Institutions	50
16	Design thinking workshop for Dental and pharmacy staffs	2019	JKKN Group of Institutions	50
17	Workshop on Drone using KK2.1 flight controller	2019	JKKN ATAL school students	25
18	Innovation eco-system camp	2019	JKKN Group of Institutions	47
19	Design thinking Boot camp	2019	JKKN Group of Institutions	90
20	Basic Robotics and awareness program	2020	JKKN Group of Institutions	220
21	Workshop on Robotics – Basic and intermediate	2021	Kalaignarkarunanithi Institute of Technology	310
22	Basic electronics (Proteous simulation)	2021	Kalaignarkarunanithi Institute of Technology	30
23	Familiarization of Proteous	2021	Kalaignarkarunanithi Institute of Technology	45
24	Basic Embedded Hardware design	2021	Kalaignarkarunanithi Institute of Technology	56
25	IoT Basics and Intermediate	2021	Kalaignarkarunanithi Institute of Technology	48

LIST OF SOFTWARE KNOWN

S.No	SOFTWARE	S.No	SOFTWARE
1	Embedded c	10	Mobaxterm
2	Mikro C for PIC	11	MATLAB

3	Tinkercad (3D printer)	12	Keil uvision
4	Energia	13	MIT App inventor
5	XCTU for configuration of Xbee	14	Real flight simulator
6	Arduino IDE	15	National instrumentation
7	Python	16	Labview
8	CCS for PIC	17	Code composer studio for MSP430
9	Proteous simulator	18	Canva
10	Open CV	20	Mission Planner
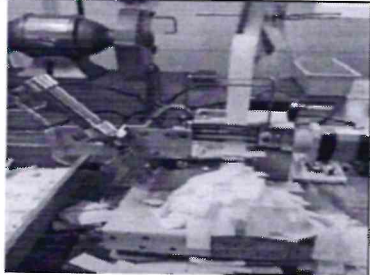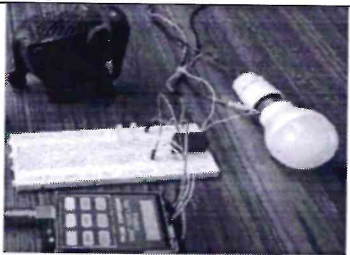
PROFESSIONAL SKILL / KNOWLEDGE

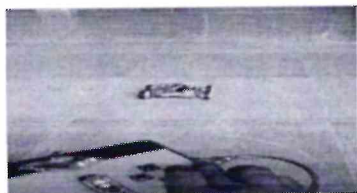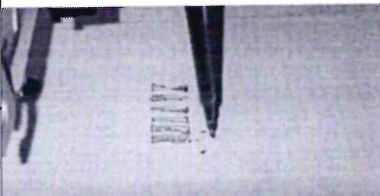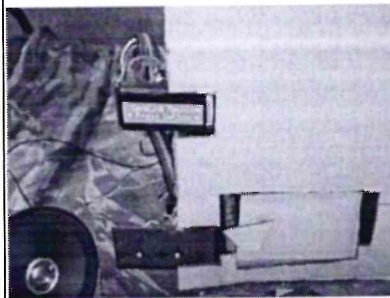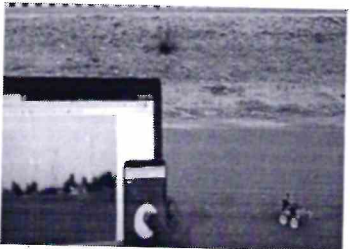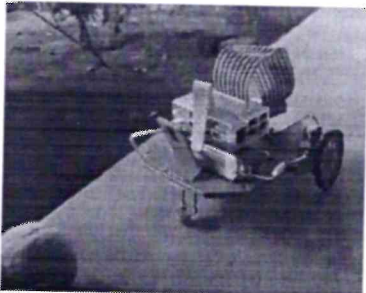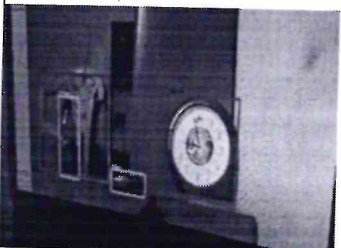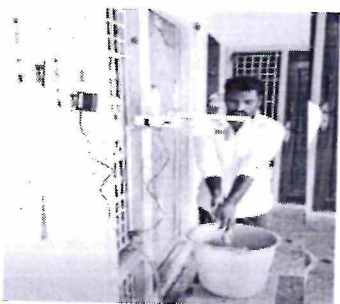| S.No	SKILL / KNOWLEDGE	Years
1	Hardware design	7
2	Hands on Experience 3D Printing	4
3	Can able to work with advance microcontroller and compilers	7
4	Robotics -RC Plane , Drone, Hover Craft, RC Boat	4
5	Machine learning programming	4
6	Hands on work experience in electric cars	4
7	Hands on experience in Single board computers	4
8	Internet of Things	6
9	Industrial automation	7

Event Participation:

✓ CII - Overview of Disruptive Technologies

✓ CII - Conference on Aerospace &Defense Manufacturing Technologies

✓ CII - Bosch Exclusive Workshop on Industry 4.0

✓ Attended ISBA (Indian STEP & Business Incubator Association) workshop at Kerala, visited Maker village and having good contact with the members.

✓ Exhibited school products (my idea and mentoring) at **MAKER FAIRE** at Hyderabad (Twice), Telungana.

✓ Visited **Sheel make the future 2019** and helped the participant **NIIFT Delhi** team to move on the next level to Singapore. Repaired the completely damaged controller board by me.
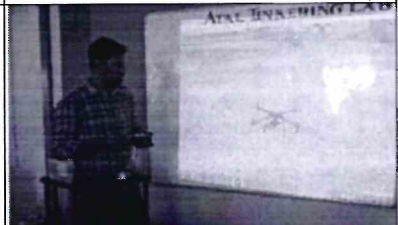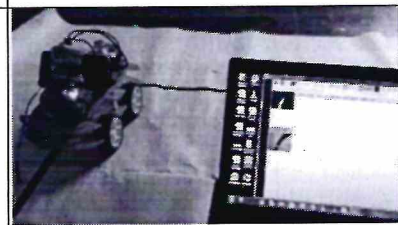
LIST OF PROJECTS COMPLETED

S.No	Project Name	Project Description	Video Link
1	Automated Velcro cutter machine	An automated Velcro cuter designed to cut the Velcro for the quick production which doesn't require man power. I developed this machine in KPR garments. This is machine is powered by open source Hardware, pneumatic piston and air solenoid.	https://youtube.com/shorts/SPMCloy_ht4?feature=share
2	TFT touch screen automation	This project is to prevent the electrical accidents due to shock. A UI is created in TFT touch screen so that the user can operate the electrical appliances very safely.	https://youtu.be/wciTtQa7A68
3	IoT automation with android app and Google assistance	IoT home automation using Adafruit Dashboard and Google assistance. Using this project we can control and monitor the IoT devices from anywhere.	https://youtu.be/U3BfS5Q-qio
4	Automated Hand-wash machine	An automated hand-wash system to avoid the spreading of the covid virus. This machine is very user friendly and anyone can this machine without any problem. Voice guidance is there in system to alert and guide the user to keep their hands safe and free from covid.	https://youtu.be/f2Gc0mC7uS0
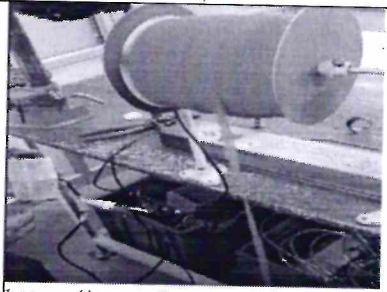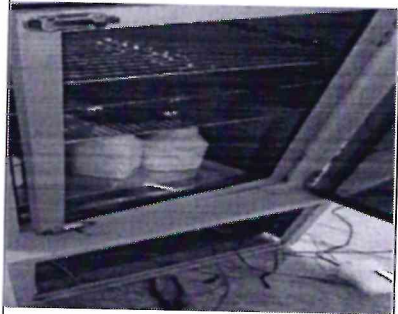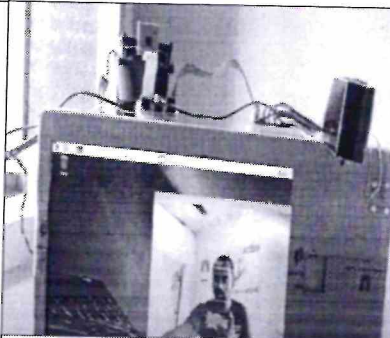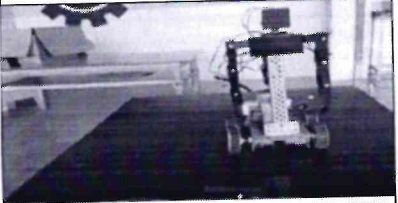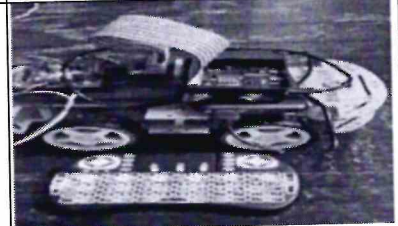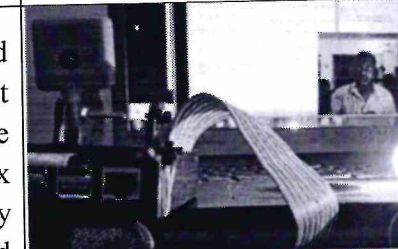
5	Long range Wireless X Bee controlled robot	X-bee controlled robot this bot is power with 12 v lipo battery and long range Xbee transducer. Checked at the range of 300 meters.	https://youtu.be/O3s7SylZ5o0
6	Quad copter using KK2.1 flight controller	Made a manual controlled quad copter drone using KK2.1 fight controller. This Can be used for the application of surveillance.	https://youtu.be/S1QUSpJpD_s
7	Drawing machine (DVD plotter)	Made a DVD plotter machine where the given image or text is written to paper with the help of X, Y axis of micro stepper motor.	https://youtu.be/HEa-DV3YJNk
8	Electronic vending machine	Made an electronic vending machine where a child or student can take chocolate and eraser with the push button the system is completely automated and voice guided.	https://youtu.be/QxJK9XjNaDw

9	IoT controlled live video streaming spy robot	This is an IoT controlled where it is controlled by the mobile application. This bot can also take the live video streaming of the events.	https://youtu.be/E_RVjwE_Q1M
10	Ball tracking robot with raspberry pi and pi camera	A single board computer is the brain of the project. I have used raspberry pi 3 and pi camera. Any object can be tracked by this robot. Here am using a green ball to track it I used python language.	https://youtu.be/HFT35LOnRsw
11	Real-time object detection using raspberry pi and pi camera	A single board computer pi3 and pi camera used to detect the pre trained Google objects. This project can detect animals and objects.	https://youtu.be/OoyddiCFjEQ
12	Portable automated hand-wash machine	This is the portable hand-wash machine where the user can take it and install at desired place with pipe line of water. This system also guided the user with voice.	https://youtu.be/ztysBc3mUTc
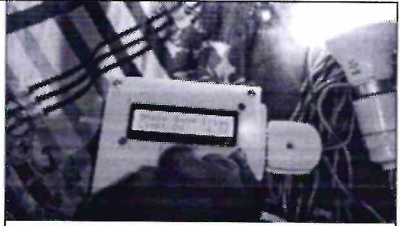
13	2 meter wing span Balsa wood RC glider	This a balsa wood 2meter wing span glider. It is a laser pre-cut model. It can reach the height of 200 meters altitude.	https://youtu.be/4fB9aChfPi k
14	Practice with flight simulator	Drone piloting is a tedious task and it requires lot of time to develop this skill. Ihave used Real flight simulator to practice the drone piloting skills.	https://youtu.be/Pqs-lhDmwEc
15	Real time mask detection with sanitizer dispenser assisted with voice guidance	This is a machine learning based real time working model. This model will detect the person is wearing mask or not at the same time it will read the body temperature if the temperature is normal a voice will be alerted and sanitizer will be dispensed and door will be opened.	https://youtu.be/RkoWT89gJq Q
16	Line following robot using raspberry pi with pi camera	Ihave designed a line following robot using raspberry pi and camera .I used camera to capture the black line and the robot follow the lines.	https://youtu.be/iJu3PeCWrdM
17	Real-time video looper for KPR industry	This project is designed in KPR garments where to educate the workers about the first aid and safety measures during accident and increase the production. A single board computer is used to play the video and images in SD card or pen drive. This will run seamlessly.	https://youtu.be/rzcDQFBWgjg

18	3-D printed automatic water tap powered by solar panel	A smart automated 3-D printed tap designed and installed in government school kumaraplayam. This module powered by battery and solar panel. The project is to conserve the water and to reduce the unwanted usage of water by school students.	https://youtu.be/NHLrL31vVsc
19	Winding and unwinding of garment lace using DC gear motor	Designed and developed a low cost unwinding and unwinding machine controlled by the handy switch and pedal.	https://youtube.com/shorts/T2parL99TvA?feature=share
20	Automated shaker machine for PSG BioNEST lab	Developed a product for the PSG BioNESTlab Coimbatore. This product can detect the RPM and change the speed of the motor using a variable resistor.	https://youtu.be/Pq3c_O0ETCI
21	Real-time design and implementation of laser light control circuit using MOSFET	Developed a low cost add-on device to control the intensity of the Laser beam. The woman worker faces the problem of eye irritation by continuously looking at the light. This low cost product solve this problem	https://youtu.be/V0vEcF8dkX0
22	Real-time face recognition system with temperature alert attendance system	Real time face recognition with body temperature alert with voice guidance. The entire data will be recorded to the excel sheet and the voice guidance will alert in case of the person is having fever. This system will prevent the spreading of covid in workplaces.	https://youtu.be/5AI35ckQOhU

23	Autonomous drone using APM2.8 flight controller	Made a fully autonomous quad copter drone using APm2.8 flight controller. This drone can take off and land from mobile. Respond nicely from the ground control station (control from laptop)	https://youtu.be/6SzeXj_eldI
24	3-D printed marching wireless controlled robot	This is a 3-D printed robot having 11 DOF. This bot can able to do 10 exercises and marching. Designed this bot the JKKN school sports day.	https://youtu.be/J7yJT_eGMJU
25	Wireless Bluetooth keyboard controlled robot using raspberry pi robot	This is a Wheeled robot where the movements can be controlled from the inputs received from the wireless Bluetooth keyboard. Arrow keys are used to control the motion of the robot.	https://youtu.be/VcDeqr5HJcg
26	PS4 controlled raspberry pi robot	This is a Wheeled robot made up of raspberry pi4 where the movements can be controlled from the inputs received from the play station joystick. The joystick throttle used to control the robot movement.	https://youtube.com/shorts/2JVmwcxBfPI?feature=share
27	Real-time drowsiness detection for heavy vehicles with hazardous indicator and fuel cutoff	This is a real time yawn and drowsiness detection and alert system with voice guidance where this project can able to fix this as an add-on device in any vehicles to detect the yawn and drowsiness. This device can control the hazardous indicator and fuel system.	https://youtu.be/3b8xO1S9ero

28	Automated evening night lamp	This is a portable automatic evening light product which activates based on sensor. The user can able to set the threshold light intensity. Whenever the light senses the dark it will automatically switch on the light.	https://youtu.be/Mm5I0Ddf2e8

PERSONALDETAILS

Name	:	Xavier Richards. G
Date of Birth	:	23.08.1990
Gender	:	Male
Nationality	:	Indian
Father's Name	:	Gunasekar S
Marital Status	:	Married
Mother tongue	:	Tamil

Language proficiency

To Speak	:	Tamil, English
To Read	:	Tamil, English
To Write	:	Tamil, English
Hobbies	:	Choreography
		Music and dancing

DECLARATION

I hereby declare that the statements furnished above are true and complete to the best of my knowledge and belief.

PLACE: Coimbatore

DATE:

G. Xavier Richards

KGiSL Institute of Technology
(Approved By AICTE, Affiliated to Anna University, Chennai)

KGiSL Campus, Saravanampatti, Coimbatore – 641 035
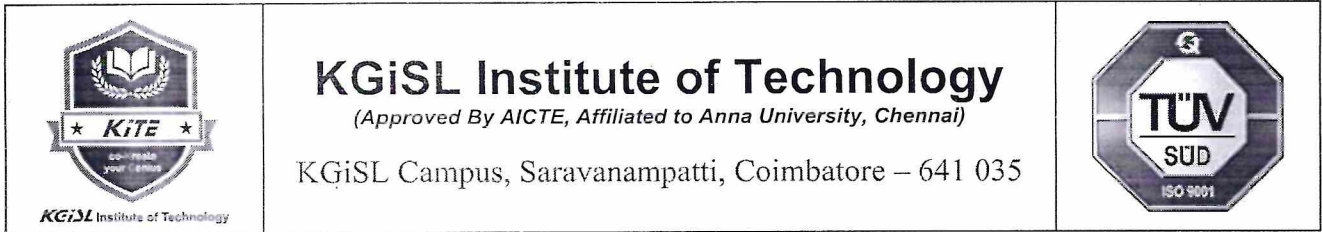
Department of Electronics and Communication Engineering

28.10.2022

One Page Write up - IETE Seminar

IETE Seminar was conducted by the Department of Electronics and Communication Engineering on 28.10.2022. The resource person for the Seminar was Mr. G. Xavier Richards, Associate Innovation officer, KPR Institute of Engineering and Technology, Coimbatore 641407.

The IETE Seminar started with welcoming the chief guest by Dr.M.Arun, Associate Professor / ECE, KiTE. The presidential address was given by Dr.M.Selvam, Principal, KiTE. Then, we handover it to the resource person Mr. G. Xavier Richards for the seminar topic on "Recent Trends in Embedded and IoT for Product Development".

Mr.G.Xavier Richards explained about the basics of Embedded and IoT technologies, Semiconductors, Arduino Uno, PIC controller (16, 18, DSPIC), ARM LPC2148, Raspberry Pi, Embedded Protocols, Protocol Applications, Automobile Protocols, Python Libraries, Internet of Things, IOT Hardware Platforms, IOT Hub-Gateway, IOT Devices, Blink a LED in NODE MCU, Blynk, How to design a Product?

He also gives idea to start up   :

- Understand the user problem
- Create an Idea
- Make a solution for the problem
- Make a prototype
- Test the prototype
- Upgrade in case of bug or problem in product
- Understanding the target customer
- Create a business proposal
- Make it revenue model

At the end of the session he clarified the students' doubts in the topic. Finally Vote of Thanks was given by Dr.C.Venkatesh, HOD/ECE, KiTE.

KGiSL Institute of Technology

(Approved By AICTE, Affiliated to Anna University, Chennai)

An ISO 9001:2015 Certified Institution

KGiSL Campus, 365, Thudiyalur Road,
Saravanampatti, Coimbatore - 641 035

Department of Electronics and Communication Engineering

28.10.2022

IETE Seminar
Institution of Electronics and Telecommunication Engineers (IETE)

List of Participants - 235

S. No	Class	Strength
1	II ECE A	61
2	II ECE B	60
3	III ECE	61
4	IV ECE	53
Total		235

II Year ECE A

S. No	Roll no.	Name
1	21ECA01	ABARNA M
2	21ECA02	ABDUL RASITH H
3	21ECA03	ABINAYA M
4	21ECA04	ABINAYYA V B
5	21ECA05	ABINI B J
6	21ECA07	ADSHAYA S S
7	21ECA08	ANDREW ABISHEK P
8	21ECA09	ANUSUYA B
9	21ECA10	ARJUNAN R
10	21ECA11	ARKESHWAR S S
11	21ECA12	ARUN M
12	21ECA13	ASHWIN JACK J
13	21ECA14	ASHWIN K
14	21ECA15	AJAY JOSEPH
15	21ECA16	BALAMURUGAN K
16	21ECA17	BALAMURUGAN R
17	21ECA18	BHAVANA GRACE JOHNSON
18	21ECA19	BOOBALAN K
19	21ECA20	CHANDRU R
20	21ECA21	CHINNASAMY M
21	21ECA23	DEEPTI S D
22	21ECA24	DEIVA PANDEESWARAN B
23	21ECA25	DHANUSH.S.N
24	21ECA26	DHARUN R
25	21ECA27	DHARUN RAKESH K
26	21ECA28	DHEEKSHA R
27	21ECA29	DHIVYA S
28	21ECA30	DINESH KUMAR P
29	21ECA31	DIVYA BHARATHI M
30	21ECA32	DIVYADHARSHINI R
31	21ECA33	ESWARI K
32	21ECA34	HARI M
33	21ECA35	HARI NARAYANAN J
34	21ECA36	HARI PRASATH. B U
35	21ECA37	HARIHARAN R
36	21ECA38	HARIKARAN K
37	21ECA39	HARISH J
38	21ECA40	HARISH M
39	21ECA41	HARITHA PRASAD H
40	21ECA42	HEMAPRIYA T
41	21ECA43	INDHIRAJITH A
42	21ECA44	JALATHAN V
43	21ECA45	JANATH S
44	21ECA46	JANETTE RUTH J
45	21ECA47	JAYA GANESH R
46	21ECA48	JOEL KINGSLY R
47	21ECA49	JOTHI N
48	21ECA50	KANISHKA S
49	21ECA51	KAVIYA M
50	21ECA52	KIRUTHIKA V
51	21ECA53	KUMARAN M
52	21ECA54	KUMARASAN S
53	21ECA55	LAKSHMI PRABHA M
54	21ECA57	LOKESH KIRAN. C K
55	21ECA58	MAAHASARATHY. S B
56	21ECA59	MADHUMITHA P
57	21ECA60	MAGHAA MIRUTHAA B
58	21ECA61	MANISHA K
59	21ECA62	MANOJ KUMAR P
60	21ECA63	MANOJ P
61	21ECA64	MOHAMMED MAHBOOB BASHA SM

II Year ECE B

S. No	Roll no.	Name
1	21ECB01	MONA B
2	21ECB02	MONISH D
3	21ECB03	MOURIS V
4	21ECB04	MUKESH JOGHEE R K
5	21ECB05	NAVEEN HARI SAKTHI D

6	21ECB06	NAVEEN KUMAR S
7	21ECB07	NAVEENKUMAR S
8	21ECB08	NEHA K
9	21ECB09	NISHAVARSHINI S
10	21ECB10	PAVILASH S R
11	21ECB11	PAVITHRA R
12	21ECB12	PRANAV R
13	21ECB13	PRAVEEN CHIDAMBARAM V
14	21ECB14	PRITHIVRAJ S
15	21ECB15	PRIYADHARSHINI M
16	21ECB16	RAJESH G
17	21ECB18	RISHIKESH H
18	21ECB19	ROHITH G
19	21ECB20	RONISON V
20	21ECB21	ROOBA SRI K
21	21ECB22	SABARESH K
22	21ECB23	SABARINATHAN B
23	21ECB24	SABARISH B
24	21ECB25	SAM GLADSON A
25	21ECB26	SANDHIYA V
26	21ECB27	SANJAY B
27	21ECB28	SANJAY V
28	21ECB29	SANTHIKA D
29	21ECB31	SARATH P
30	21ECB32	SARVESHWARAN P T
31	21ECB33	SENTHURAN L K
32	21ECB34	SHANMUGAPRIYA A M
33	21ECB35	SHARMILA S
34	21ECB36	SHARVAPRIYA S
35	21ECB37	SHRI HARIHARAN B
36	21ECB38	SHRIMUGI S
37	21ECB39	SHWETHA D
38	21ECB40	SINDHU R
39	21ECB41	SINDUJA P
40	21ECB42	SIVAGURU A S
41	21ECB43	SNEHA S
42	21ECB44	SNEHA S
43	21ECB45	SOBHIKA V
44	21ECB46	SRIKANTH C
45	21ECB47	SRIRANJANI P
46	21ECB48	SUBASHINI P R
47	21ECB49	SUBHASHINI L
48	21ECB50	SUGAN N
49	21ECB51	SUGANTHAN P
50	21ECB52	SUJITH KRISHNAA L S
51	21ECB53	SUPREETA D S
52	21ECB54	SURYA THANGARAJ B
53	21ECB55	THANGAMANI R
54	21ECB56	VARSHA D S
55	21ECB57	VASANTH S
56	21ECB58	VIGNESH A
57	21ECB59	VIMALRAJ T
58	21ECB60	VISHVA D
59	21ECB61	YOKESH K
60	21ECB62	YUGAVARSSHAN A S

III Year ECE

S. No	Roll no.	Name
1	20EC01	AKILAN S T
2	20EC02	AMRITHASREE S
3	20EC03	ANJANA SREE A
4	20EC04	ASHWIN R
5	20EC05	DARSANI R
6	20EC06	DHANUSH R
7	20EC07	DHILIP S
8	20EC08	GAJENDRAN E
9	20EC09	GOKUL KRISHNAN S
10	20EC10	JENNIFER A
11	20EC11	JUDE JENISON JOSEPH W
12	20EC12	KAMALA NETHRA P
13	20EC13	KAMALESH M
14	20EC14	KAVIYA V
15	20EC15	KIRUPAN P
16	20EC16	KOUSI PRIYA C
17	20EC17	LAVANYA S
18	20EC19	MAHALAKSHMI T
19	20EC20	NALLA THAMBI B
20	20EC21	NIKITHA S
21	20EC22	NITHISH K
22	20EC23	PAVITHRA P
23	20EC24	PREETHI M
24	20EC25	PREM KUMAAR D.K
25	20EC26	PREMICA G
26	20EC27	PRIYANKA N
27	20EC28	RAGHUL R
28	20EC29	RAMYA R
29	20EC30	RANJITH S
30	20EC31	ROHITH KRISHNAN R
31	20EC32	SANJAY C
32	20EC33	SARANYA A
33	20EC34	SARAVANAN K
34	20EC35	SAVITHA D
35	20EC36	SHYAM PRAKASH K
36	20EC37	SIVAPRIYA V
37	20EC38	SRIRAM R
38	20EC39	SWATHI M
39	20EC40	SWATHI P
40	20EC41	SWETHA B
41	20EC42	SWETHA S
42	20EC43	VARSHINI MARIAPPAN
43	20EC44	VARUN D
44	20EC45	VASANTH KUMAR.M
45	20EC46	VIGNESH S V
46	20EC48	YOGESH V
47	20EC49	DINESH KUMAR S
48	20EC50	SUDHARSAN S
49	20EC51	VISHNURAJ A
50	20EC52	VISWANTH M

51	20EC53	VINOTH M
52	20EC54	RAGUL SUBRAMANIYAN SPB
53	20EC55	ANJALI PARMAR
54	20EC56	SABAREESAN K
55	20EC57	CHARUMATHI M
56	20EC58	DURGA DEVI N
57	20EC59	DHARSHINI A
58	20EC60	SANJAY KUMAR S
59	20EC61	TAMILSELVAN C R
60	20EC62	STEPHAN JEBARAJ P
61	20EC63	ADITHAN U

41	19EC43	SAMRITHA S
42	19EC44	SAMYUKTHA P V
43	19EC45	SANDHYA S
44	19EC46	SETHU HARSHINI V
45	19EC47	SHAJAHAN S
46	19EC48	SNEHA P
47	19EC50	SRIMAN G
48	19EC51	SYEDA ANJUM N
49	19EC52	TAMILSELVI T
50	19EC53	VASANTH G
51	19EC54	VIGNESH J
52	19EC55	ADARSH.G
53	19EC56	CHRISTINA AISVARYA B

IV Year ECE

S. No	Roll no.	Name
1	19EC01	AAKASH J
2	19EC02	AJAY S
3	19EC03	AKASH P
4	19EC05	ANJALEN MARTIN D M
5	19EC06	ARUL JENIN A
6	19EC07	ASIS NOVA J
7	19EC08	BHUVANESHWARI K
8	19EC09	DEENA V
9	19EC10	DEVANSH SHUKLA R
10	19EC11	DHEVAKI V
11	19EC12	DURGA E
12	19EC13	GOWTHAMAN M
13	19EC14	GOWTHAM K
14	19EC15	GOWTHAM S
15	19EC16	JANANI K
16	19EC17	JANANI S
17	19EC18	JAYACHANDRAN.S
18	19EC19	JEEVIKA K
19	19EC20	KALAIYARASI N
20	19EC21	KARTHICK RAJA T
21	19EC22	KEERTHANA V
22	19EC23	LOGESH KUMAR R
23	19EC25	MELVIN S
24	19EC26	MIRUDHULLA
25	19EC27	MONISHA G
26	19EC28	MURALI K
27	19EC29	NAWIN RAJ KUMAR
28	19EC30	NIRMAL RAJ G
29	19EC31	NITHISH B K
30	19EC32	PRAVEEN.P
31	19EC33	RADHIKA T
32	19EC34	RAGHUPAL V
33	19EC35	RAHUL KUMAR R
34	19EC36	REMIN FRANKLIN E
35	19EC37	RITHICKA S
36	19EC38	ROBIN RAJA H P
37	19EC39	ROHINDH KISHORE K M
38	19EC40	ROHITH B
39	19EC41	ROHITH PARTHIBAN K
40	19EC42	RUPAVARSHINI P

KGiSL Institute of Technology

(Approved By AICTE, Affiliated to Anna University, Chennai)

An ISO 9001:2015 Certified Institution

KGiSL Campus, 365, Thudiyalur Road,
Saravanampatti, Coimbatore - 641 035

Department of Electronics and Communication Engineering

28.10.2022

IETE Seminar
Institution of Electronics and Telecommunication Engineers (IETE)
Beneficiary - 235

S. No	Class	Strength
1	II ECE A	61
2	II ECE B	60
3	III ECE	61
4	IV ECE	53
Total		235

II Year ECE A

S. No	Roll no.	Name
1	21ECA01	ABARNA M
2	21ECA02	ABDUL RASITH H
3	21ECA03	ABINAYA M
4	21ECA04	ABINAYYA V B
5	21ECA05	ABINI B J
6	21ECA07	ADSHAYA S S
7	21ECA08	ANDREW ABISHEK P
8	21ECA09	ANUSUYA B
9	21ECA10	ARJUNAN R
10	21ECA11	ARKESHWAR S S
11	21ECA12	ARUN M
12	21ECA13	ASHWIN JACK J
13	21ECA14	ASHWIN K
14	21ECA15	AJAY JOSEPH
15	21ECA16	BALAMURUGAN K
16	21ECA17	BALAMURUGAN R
17	21ECA18	BHAVANA GRACE JOHNSON
18	21ECA19	BOOBALAN K
19	21ECA20	CHANDRU R
20	21ECA21	CHINNASAMY M
21	21ECA23	DEEPTI S D
22	21ECA24	DEIVA PANDEESWARAN B
23	21ECA25	DHANUSH.S.N
24	21ECA26	DHARUN R
25	21ECA27	DHARUN RAKESH K
26	21ECA28	DHEEKSHA R
27	21ECA29	DHIVYA S
28	21ECA30	DINESH KUMAR P
29	21ECA31	DIVYA BHARATHI M
30	21ECA32	DIVYADHARSHINI R
31	21ECA33	ESWARI K
32	21ECA34	HARI M
33	21ECA35	HARI NARAYANAN J
34	21ECA36	HARI PRASATH. B U
35	21ECA37	HARIHARAN R
36	21ECA38	HARIKARAN K
37	21ECA39	HARISH J
38	21ECA40	HARISH M
39	21ECA41	HARITHA PRASAD H
40	21ECA42	HEMAPRIYA T
41	21ECA43	INDHIRAJITH A
42	21ECA44	JALATHAN V
43	21ECA45	JANATH S
44	21ECA46	JANETTE RUTH J
45	21ECA47	JAYA GANESH R
46	21ECA48	JOEL KINGSLY R
47	21ECA49	JOTHI N
48	21ECA50	KANISHKA S
49	21ECA51	KAVIYA M
50	21ECA52	KIRUTHIKA V
51	21ECA53	KUMARAN M
52	21ECA54	KUMARASAN S
53	21ECA55	LAKSHMI PRABHA M
54	21ECA57	LOKESH KIRAN. C K
55	21ECA58	MAAHASARATHY. S B
56	21ECA59	MADHUMITHA P
57	21ECA60	MAGHAA MIRUTHAA B
58	21ECA61	MANISHA K
59	21ECA62	MANOJ KUMAR P
60	21ECA63	MANOJ P
61	21ECA64	MOHAMMED MAHBOOB BASHA SM

II Year ECE B

S. No	Roll no.	Name
1	21ECB01	MONA B
2	21ECB02	MONISH D
3	21ECB03	MOURIS V
4	21ECB04	MUKESH JOGHEE R K
5	21ECB05	NAVEEN HARI SAKTHI D

S. No	Roll no.	Name
6	21ECB06	NAVEEN KUMAR S
7	21ECB07	NAVEENKUMAR S
8	21ECB08	NEHA K
9	21ECB09	NISHAVARSHINI S
10	21ECB10	PAVILASH S R
11	21ECB11	PAVITHRA R
12	21ECB12	PRANAV R
13	21ECB13	PRAVEEN CHIDAMBARAM V
14	21ECB14	PRITHIVRAJ S
15	21ECB15	PRIYADHARSHINI M
16	21ECB16	RAJESH G
17	21ECB18	RISHIKESH H
18	21ECB19	ROHITH G
19	21ECB20	RONISON V
20	21ECB21	ROOBA SRI K
21	21ECB22	SABARESH K
22	21ECB23	SABARINATHAN B
23	21ECB24	SABARISH B
24	21ECB25	SAM GLADSON A
25	21ECB26	SANDHIYA V
26	21ECB27	SANJAY B
27	21ECB28	SANJAY V
28	21ECB29	SANTHIKA D
29	21ECB31	SARATH P
30	21ECB32	SARVESHWARAN P T
31	21ECB33	SENTHURAN L K
32	21ECB34	SHANMUGAPRIYA A M
33	21ECB35	SHARMILA S
34	21ECB36	SHARVAPRIYA S
35	21ECB37	SHRI HARIHARAN B
36	21ECB38	SHRIMUGI S
37	21ECB39	SHWETHA D
38	21ECB40	SINDHU R
39	21ECB41	SINDUJA P
40	21ECB42	SIVAGURU A S
41	21ECB43	SNEHA S
42	21ECB44	SNEHA S
43	21ECB45	SOBHIKA V
44	21ECB46	SRIKANTH C
45	21ECB47	SRIRANJANI P
46	21ECB48	SUBASHINI P R
47	21ECB49	SUBHASHINI L
48	21ECB50	SUGAN N
49	21ECB51	SUGANTHAN P
50	21ECB52	SUJITH KRISHNAA L S
51	21ECB53	SUPREETA D S
52	21ECB54	SURYA THANGARAJ B
53	21ECB55	THANGAMANI R
54	21ECB56	VARSHA D S
55	21ECB57	VASANTH S
56	21ECB58	VIGNESH A
57	21ECB59	VIMALRAJ T
58	21ECB60	VISHVA D
59	21ECB61	YOKESH K
60	21ECB62	YUGAVARSSHAN A S

III Year ECE

S. No	Roll no.	Name
1	20EC01	AKILAN S T
2	20EC02	AMRITHASREE S
3	20EC03	ANJANA SREE A
4	20EC04	ASHWIN R
5	20EC05	DARSANI R
6	20EC06	DHANUSH R
7	20EC07	DHILIP S
8	20EC08	GAJENDRAN E
9	20EC09	GOKUL KRISHNAN S
10	20EC10	JENNIFER A
11	20EC11	JUDE JENISON JOSEPH W
12	20EC12	KAMALA NETHRA P
13	20EC13	KAMALESH M
14	20EC14	KAVIYA V
15	20EC15	KIRUPAN P
16	20EC16	KOUSI PRIYA C
17	20EC17	LAVANYA S
18	20EC19	MAHALAKSHMI T
19	20EC20	NALLA THAMBI B
20	20EC21	NIKITHA S
21	20EC22	NITHISH K
22	20EC23	PAVITHRA P
23	20EC24	PREETHI M
24	20EC25	PREM KUMAAR D.K
25	20EC26	PREMICA G
26	20EC27	PRIYANKA N
27	20EC28	RAGHUL R
28	20EC29	RAMYA R
29	20EC30	RANJITH S
30	20EC31	ROHITH KRISHNAN R
31	20EC32	SANJAY C
32	20EC33	SARANYA A
33	20EC34	SARAVANAN K
34	20EC35	SAVITHA D
35	20EC36	SHYAM PRAKASH K
36	20EC37	SIVAPRIYA V
37	20EC38	SRIRAM R
38	20EC39	SWATHI M
39	20EC40	SWATHI P
40	20EC41	SWETHA B
41	20EC42	SWETHA S
42	20EC43	VARSHINI MARIAPPAN
43	20EC44	VARUN D
44	20EC45	VASANTH KUMAR.M
45	20EC46	VIGNESH S V
46	20EC48	YOGESH V
47	20EC49	DINESH KUMAR S
48	20EC50	SUDHARSAN S
49	20EC51	VISHNURAJ A
50	20EC52	VISWANTH M

51	20EC53	VINOTH M
52	20EC54	RAGUL SUBRAMANIYAN SPB
53	20EC55	ANJALI PARMAR
54	20EC56	SABAREESAN K
55	20EC57	CHARUMATHI M
56	20EC58	DURGA DEVI N
57	20EC59	DHARSHINI A
58	20EC60	SANJAY KUMAR S
59	20EC61	TAMILSELVAN C R
60	20EC62	STEPHAN JEBARAJ P
61	20EC63	ADITHAN U

41	19EC43	SAMRITHA S
42	19EC44	SAMYUKTHA P V
43	19EC45	SANDHYA S
44	19EC46	SETHU HARSHINI V
45	19EC47	SHAJAHAN S
46	19EC48	SNEHA P
47	19EC50	SRIMAN G
48	19EC51	SYEDA ANJUM N
49	19EC52	TAMILSELVI T
50	19EC53	VASANTH G
51	19EC54	VIGNESH J
52	19EC55	ADARSH.G
53	19EC56	CHRISTINA AISVARYA B

IV Year ECE

S. No	Roll no.	Name
1	19EC01	AAKASH J
2	19EC02	AJAY S
3	19EC03	AKASH P
4	19EC05	ANJALEN MARTIN D M
5	19EC06	ARUL JENIN A
6	19EC07	ASIS NOVA J
7	19EC08	BHUVANESHWARI K
8	19EC09	DEENA V
9	19EC10	DEVANSH SHUKLA R
10	19EC11	DHEVAKI V
11	19EC12	DURGA E
12	19EC13	GOWTHAMAN M
13	19EC14	GOWTHAM K
14	19EC15	GOWTHAM S
15	19EC16	JANANI K
16	19EC17	JANANI S
17	19EC18	JAYACHANDRAN.S
18	19EC19	JEEVIKA K
19	19EC20	KALAIYARASI N
20	19EC21	KARTHICK RAJA T
21	19EC22	KEERTHANA V
22	19EC23	LOGESH KUMAR R
23	19EC25	MELVIN S
24	19EC26	MIRUDHULLA
25	19EC27	MONISHA G
26	19EC28	MURALI K
27	19EC29	NAWIN RAJ KUMAR
28	19EC30	NIRMAL RAJ G
29	19EC31	NITHISH B K
30	19EC32	PRAVEEN.P
31	19EC33	RADHIKA T
32	19EC34	RAGHUPAL V
33	19EC35	RAHUL KUMAR R
34	19EC36	REMIN FRANKLIN E
35	19EC37	RITHICKA S
36	19EC38	ROBIN RAJA H P
37	19EC39	ROHINDH KISHORE K M
38	19EC40	ROHITH B
39	19EC41	ROHITH PARTHIBAN K
40	19EC42	RUPAVARSHINI P

ARE YOU AN ENGINEER ?

Coimbatore, Tamil Nadu, India
3XMX+XGQ, Saravanampatti, Coimbatore, Tamil
Nadu 641035, India
Lat 11.084588°
Long 76.998704°
28/10/22 12:01 PM GMT +05:30

GPS Map Camera

Google

KGiSL INSTITUTE OF TECHNOLOGY

(Managed by KGiSL Trust)

KiTE

365, KGiSL Campus, Thudiyalur Road, Saravanampatti, Coimbatore - 641 035 INDIA

Phone : 91 (422) 441 9999 E-mail : info@kgkite.ac.in, Website : www.kgkite.ac.in

Approved by AICTE –N0.06/03/TN/ENT/2008/79 &

Affiliated to Anna University, App. No. AU-CBE/AFFILATION /NEW INSTITUTION/UG/17/2008-09 Dt. 09.07.2008)

KITE/8C/50/2022-23   28.10.2022

To

Mr. Xavier Richards G

Associate Innovation Officer

KPR Institute of Engineering and Technology
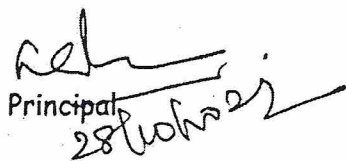
Coimbatore – 641407

Dear Sir,

Sub: Letter of Appreciation

We would like to express our heartfelt thanks to you for your sincere involvement as Chief Guest and Resource Person for the IETE Seminar "Recent Trends in Embedded and IoT for Product Development", Organized by the Department of Electronics and Communication Engineering, KGiSL Institute of Technology, Coimbatore on October 28, 2022.

Thank you for the wonderful speech and remarkable session you have given. We look forward to have the same cooperation in our future endeavors.

Principal

Dr. M.SELVAM, ME., PhD.
Principal
KGiSL Institute of Technology
Saravanampatti, Coimbatore - 641035
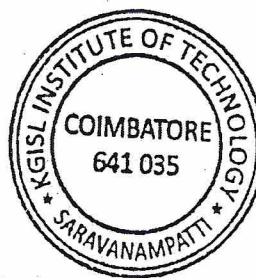
KGiSL Institute of Technology
(Approved By AICTE, Affiliated to Anna University, Chennai)

KGiSL Campus, Saravanampatti, Coimbatore – 641 035

Department of Electronics and Communication Engineering

EVENT REPORT

Name of the program	:	IETE Seminar
Date	:	28.10.2022
Time	:	10.00 PM - 12.00 PM
Participants	:	II ECE, III ECE & IV ECE Students
Details of the resource persons	:	Mr. G. Xavier Richards, Associate Innovation officer, KPR Institute of Engineering and Technology, Coimbatore 641 407.
Topic	:	"Recent Trends in Embedded and IoT for Product Development"
Purpose	:	To gain knowledge in Embedded and IoT for Product Development
Convener	:	Dr.C.Venkatesh, Prof. & Head, Dept. of ECE, KiTE
Organizer	:	Dr.M.Arun, AsP, Dept. of ECE, KiTE
Content Covered	:	Embedded and IoT for Product Development
Completion Status	:	Program was successfully completed.

KGiSL Institute of Technology

(Approved by AICTE, New Delhi; Affiliated to Anna University, Chennai)
Recognized by UGC, Accredited by NBA (IT)
365, KGiSL Campus, Thudiyalur Road, Saravanampatti, Coimbatore – 641035.

Department of Electronics and Communication Engineering

IETE Students Forum
Seminar on
"Recent Trends in Embeded and IoT for Product Development"
28 October 2022
Feedback Form

Rate the seminar in terms of the following

	Excellent	Very Good	Good
1. The seminar met my expectations		✓	
2. The content was helpful		✓	
3. The seminar was appropriate			✓
4. Overall Experience		✓	

Any Comments and Suggestions

Name: Thaswin. P

College: KITE

Signature of the Participant

Thaswin

RECENT TRENDS IN EMBEDDED SYSTEM IoT FOR PRODUCT DEVELOPMENT

XAVIER RICHARDS

ASSOCIATE
INNOVATION OFFICER

ARE YOU AN ENGINEER ?

1. Why your body feels vibration when AC 240 V pass through body?

2. From where we are getting power AC ?

3. How to protect a circuit damage due to reverse polarity ?

SEMI CONDUCTORS:

SEMI CONDUCTORS:
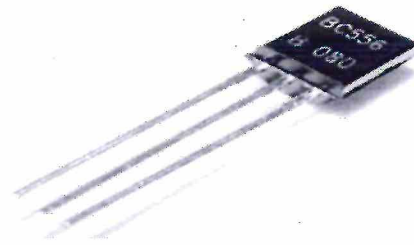
DATA SHEET:

► Datasheets are **instruction manuals for electronic components.** They (hopefully) explain exactly what a component does and how to use it. Unfortunately these documents are usually written by engineers for other engineers, and as such they can often be difficult to read, especially for newcomers.

HOW TO START ?

► For Beginners :
► Arduino Uno
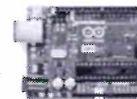
► My Suggestion:

INTERMEDIATE :

- PIC controller : 16, 18, DSPIC

- ARM : LPC2148
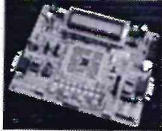
ADVANCED:

- RASPBERRY PI : Beginner

ADVANCED:

- ODROID : Intermediate
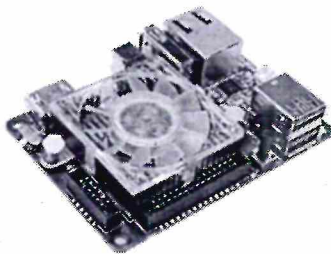
ADVANCED:

- JETSON NANO: ADVANCED
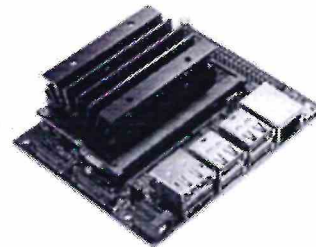
DIFFERENT PLATFORM

- PIC
- ATMEL
- MSP
- ARM CORTEX
- RENESAS
- ST MICRO CONTROLLER

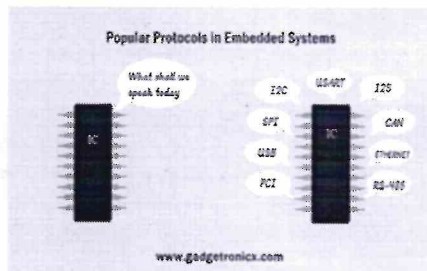## COMPILERS

- MPLAB HITIECH C COMPILER [MICROCHIP]
- ARDUINO [AVR FAMILY]
- ENERGIA [MSP]

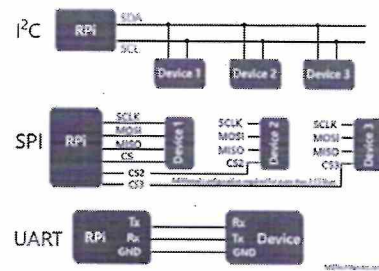**INDUSTRIAL COMPILERS**

- KEIL COMPILER [ARM, ST MICRO CONTROLLER, 8051, C251]
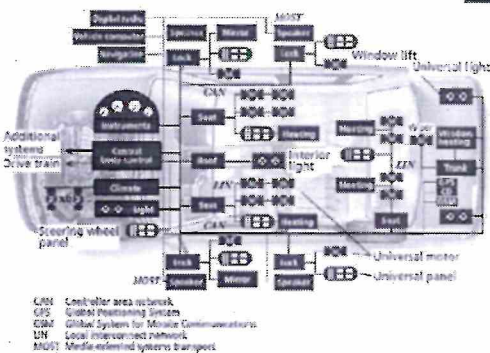- IAR EMBEDDED WORKBENCH [RENESAS]

EMBEDDED PROTOCOLS

PROTOCOL APPLICATIONS

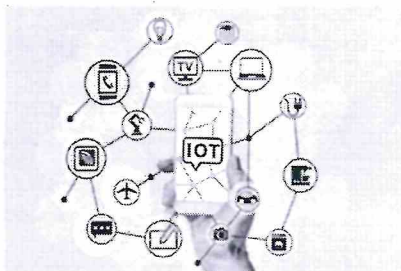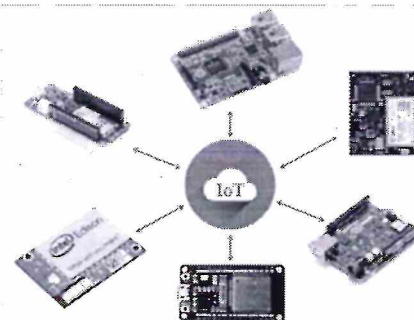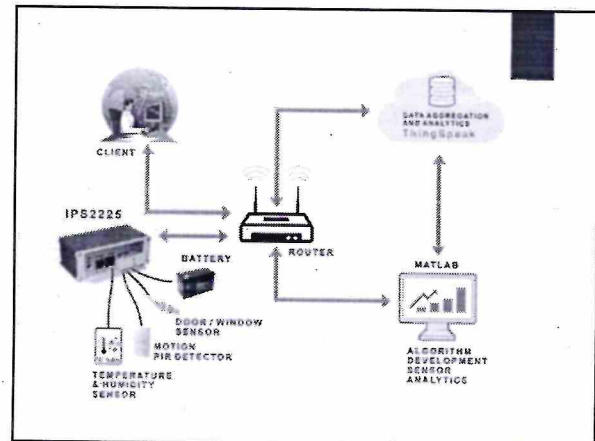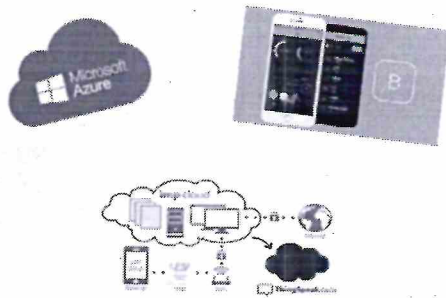

AUTOMOBILE PROTOCOLS

PYTHON LIBRARIES
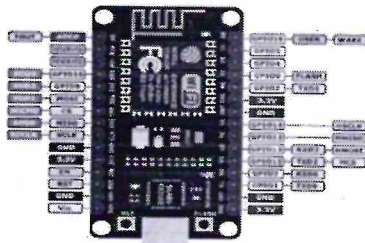

INTERNET OF THINGS
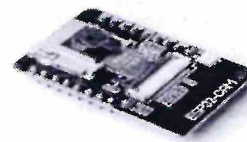

IOT HARDWARE PLATFORMS

IOT HUB-GATEWAY

IoT FOR BEGINNERS:

▶ ESP8266: NODEMCU

IoT FOR INTERMEDIATE:

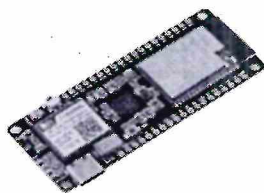▶ ESP32 CAM:

IoT FOR ADVANCE:

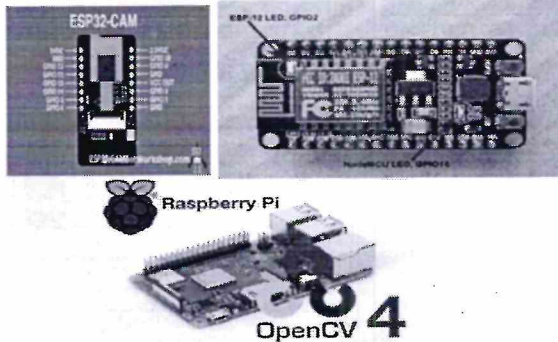▶ TTGO T-Call V1.4 ESP32 Wifi BLE SIM800L Wireless Communication Module

NodeMCU 1.0

▶ Built-in ESP8266, "ESPduino"
▶ Works with Arduino IDE, not officially though
▶ 12 V regulator for input voltage
▶ Price: 5 – 10 €
▶ 13 GPIO, only one PWM and ADC (0-1 V)
▶ Pins work with 0 - 3,3 V!
▶ Good tutorial: http://www.makeuseof.com/tag/meet-arduino-killer-esp8266/

NodeMCU 1.0 Pinout

NodeMCU setup

- *Additional Board Manager URL:*
  - http://arduino.esp8266.com/stable/package_esp8266com_index.json

Installing with Boards Manager

Starting with 1.6.4 Arduino allows installation of third party platform packages using Boards Manager. We have packages available for Windows, Mac OS, and Linux (32 and 64 bit).

- Install Arduino 1.6.8 from the Arduino website.
- Start Arduino and open Preferences window.
- Enter http://arduino.esp8266.com/stable/package_esp8266com_index.json into Additional Board Manager URLs field. You can add multiple URLs, separating them with commas.
- Open Boards Manager from Tools > Board menu and install esp8266 platform (and don't forget to select your ESP8266 board from Tools > Board menu after installation)

NodeMCU setup

▶ Add the link to the *Additional Board Manager URLs*

NodeMCU setup

▶ Search the board manager for *esp8266*
▶ Install the library

NodeMCU setup

▶ Select the NodeMCU 1.0 as your board
▶ Additional settings appear under the board menu
▶ They can be left as they are
▶ Higher Upload Speed reduces your upload times

NodeMCU setup

▶ If the device doesn't appear in the port menu after installing the library and connecting the board you can try installing the USB to Serial chip drivers.
▶ The chip is the ch340g
▶ Drivers can be found on the NodeMCU git: https://github.com/nodemcu/nodemcu-devkit/tree/master/Drivers

IOT Devices

Blink a LED in NODE MCU

- void setup()
- { pinMode(BUILTIN_LED, OUTPUT);
- void loop() { digitalWrite(BUILTIN_LED, LOW);
- delay(100); // Wait for a second digitalWrite(BUILTIN_LED, HIGH);
- delay(100);
- }

Blynk

- Blynk is a free IoT server
- Great GUI builder on a phone application
- Free version has some limitations to the complexity of the GUI but not much
- Very easy to use
- Instructables has full instructions for setting up Blynk using a NodeMCU
- http://www.instructables.com/id/Simple-Led-Control-With-Blynk-and-NodeMCU-Esp8266-/

ESP8266 after Blynk

- Using the ESP8266 without an app like Blynk requires some coding skills, although lots of ready-made code can be found on the internet.
- There will also be some extra examples in the end of the slides
- You can connect with the module directly within its range or anywhere through internet.
- For internet connection you'll need a website to which the module sends data or where you can send data to the module.

More reading and links

- Google & Youtube - search for projects, solutions to occurring problems and data sheets for components
- http://www.blynk.cc/ - Homepage of the Blynk software, getting started, community forums
- http://www.esp8266.com/ - Everything on ESP8266, wiki
- https://www.adafruit.com/ - Learning materials, guides, example projects, forums, store
- https://github.com/ - Largest code host, lots of projects and sample code
- http://allaboutee.com/ - good ESP8266 tutorials
- https://nurdspace.nl/ESP8266/ - ESP8266 info and basic list of AT commands
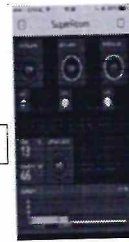
Blynk

What is Blynk?

▶ Blynk is a Platform with iOS and Android apps to control Arduino, Raspberry Pi and the likes over the Internet.
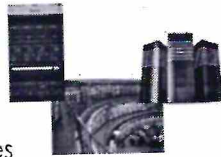
It's a digital dashboard where you can build a graphic interface for your project by simply dragging and dropping widgets.
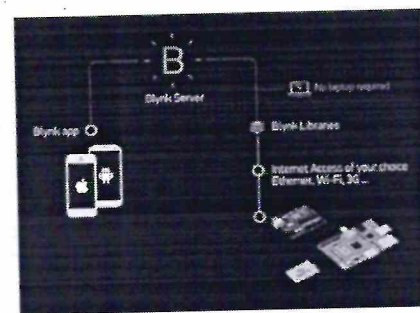

How it works?

There are three major components in the platform:

- Blynk App
- Blynk Server
- Blynk Libraries

How it works?

Product design

▶ Product design is the process designers use to blend user needs with business goals to help brands make consistently successful products.

▶ Types of product
(a). Physical product - mobile, light, fan etc..
(b). Service products – Ola , swiggy, Zomato etc..

How to design a Product ?

Product Designers Take Charge of All 5 Phases of the Design Thinking Process + the Product Roadmap

| Empathize | Define | Ideate | Prototype | Test |

+

Product Roadmap
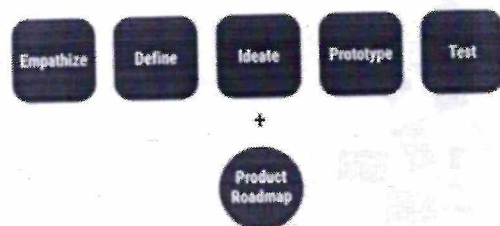
Decide Your Target customer

- A target market is a group of customers within a business's serviceable available market at which a business aims its marketing efforts and resources.

- A target market is a subset of the total market for a product or service.

- It is a mindset

Requirements of a product

- First a product needs to satisfy the need of a customer

- Should be user friendly

- Should be Bug free

- Should be affordable

- Getting Feedback and Rectification of bugs

Product failure

- Product failure is the product's inability to establish itself well and persist in the market which could be a result of poor performance or poor marketing of the product.
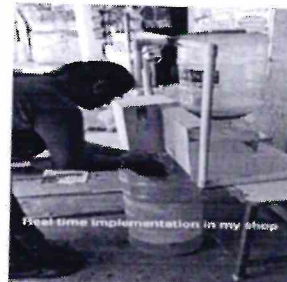
- Not designed or not suitable for a target customer
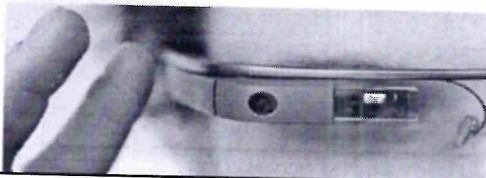
How to design a product ?

- Understand your user's needs
- Understand the market potential
- Make an Idea
- Build the Idea with technology or technique
- Test your prototype or model
- Rework on the prototype till it is bug free
- Should be cost effective

My First product

-
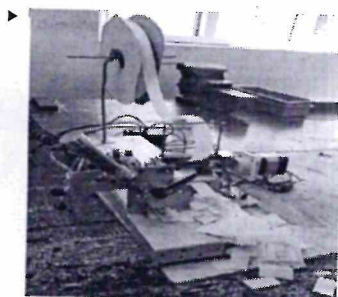
Hand wash machine – Version 0.1

Hand wash machine – version 0.2

Hand wash machine – version 0.3

IoT Switch

IoT controlled Christmas Star

Start up

- Understand the user problem
- Create an Idea
- Make a solution for the problem
- Make a prototype
- Test the prototype
- Upgrade incase of bug or problem in product
- Understanding the target customer
- Create a business proposal
- Make it revenue model

How to get Funding for startups ?

- Through seed funding from various competitions like Startup mania
- Through Incubation centers

Easy way to get Seed funding

- Your idea should target a huge market
- Should have a technology solution build around the problem
- Must have a business plan
- It must be a Revenue model
- Never think that government will fund your idea without revenue model

My startup ideas

Accident preventer and tracker for vehicle

THE HINDU – 28.10.2022

COIMBATORE TODAY

Religion
Arsha Avinash Foundation: Talk on 'Vivekacudamani', Tatabad, 5 p.m.

General
The Hindu Tamil Thisai & Dr. G.R.Damodaran College of Science: TRIDENT, 10 a.m.

JSS Institute of Naturopathy and Yogic Sciences & Hospital: Inauguration of hostel buildings, 11 a.m.

Adithya Institute of Technology: 'ACES & TechnoZappers' inauguration, 9.30 a.m' workshop on Scrum methodology, 9 a.m.

Adithya School of Business Management: Campus Training Drive, 10 a.m.

KPR Institute of Engineering and Technology: Expo — 'Innovesense' 22 V2.0, 9 a.m.

KPR College of Arts Science and Research: Seminar — Mastering data with python, 10 a.m.; Passport Mela, 9 a.m.

KGiSL Institute of Technology: Seminar — Recent trends in embedded and IoT for product development, 10 a.m.

Jai Shriram Engineering College: Induction programme, 10 a.m.

Shri Nehru Maha Vidyalaya Institute of Management: Faculty development programme, Processional Ethics and Responsibilities of Teachers, 10 a.m.

Jansons Institute of Technology: Photography Contest - Festival of Lights, 10 a.m.

Sri Krishna College of Technology: Orientation programme, noon

Sri Ramakrishna Engineering College: Graduation day, 2.30 p.m.

The Institution of Engineers (India): Annual general meeting, 5.30 p.m.

Dr. NGP Arts and Science College: Faculty Development Programme, 9.30 a.m.

Samuthaya Nallinakka Peravai: Birth anniversary of Sister Nivedita, chief guest, Collector, G.S. Sameeran, Sri Ramakrishna College of Arts and Science, 9 a.m.

Codissia: Counselling and Guidance to Entrepreneurs, Huzur Road, 3 p.m.