



## **SAPTHAGIRI COLLEGE OF ENGINEERING**

(Affiliated to VTU and approved by AICTE)

14/5, CIKKASANDRA, HESARAGHATTA MAIN ROAD, BENGALURU

### **Beyond Syllabus Details**

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Principal  
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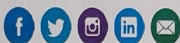
<https://timesofindia.indiatimes.com/city/bengaluru/students-turn-old-scooter-into-e-vehicle/articleshow/64938115.cms>

## Hey Tesla, this 19-year-old just used a 8MP camera to build a self-driving car. Go figure

Developed by a Bengaluru student, the system inside this self-driving car uses a cheaper camera option compared to LiDAR and GPS



Rashmi Patil  
Edex Live

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Shivashish Borah, a third-year engineering student from Saptagiri College of Engineering and Technology has invented the self-driving car

Technology is getting smarter every day. While Alexa, Siri, and Google Assistant tend to listen and respond, this prototype of a self-driving car that can not only drive but also follow traffic rules like stopping for the red signal — and it was built by an Engineering student in Karnataka. Shivashish Borah, a third-year engineering student from Saptagiri College of Engineering and Technology has invented the self-driving car and goes on to explain on how different it is from the ones that are being prototyped and developed in countries like the USA, Singapore, China, England.

He said, "My invention is not a new one but it is different from the one which is invented in other countries. Lidar and Global Positioning System (GPS) is the technology used in other countries which will cost close to 5 to 6 lakh. To make it more affordable for the automobile industry, I have instead installed an 8-megapixel camera in the car to make it recognise traffic and symbols."

Earlier, he has worked on a project called Twitter analysis. Deep Learning software was used to identify if the people's tweets were positive, negative or neutral. His motto is to make technology more affordable so that everyone can use it

When asked how his self-driving car works without GPS system and only an 8-megapixel camera, he said, "The camera installed in this can do wonders as it captures images as it travels. It saves in on a memory card. For now, I have installed a 32 GB memory card in the car. Then after collecting a sufficient amount of images, the software makes a rough estimate of the path using visual odometry technology and tries to predict the position of the car in that path." The number of times it travels along the same path, the more the onboard AI learns and remembers what actions have to be performed.

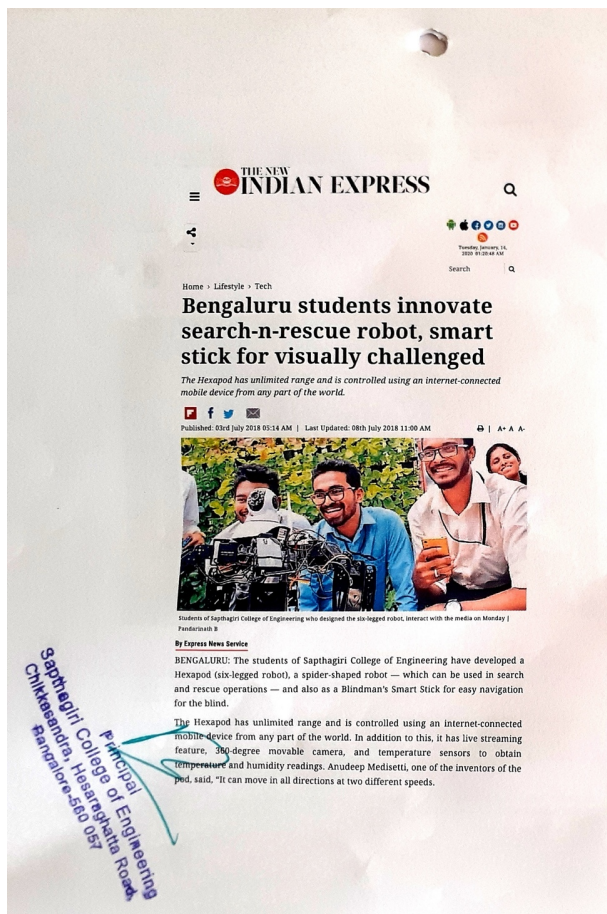
He further goes on to explain that the car is more like a human brain that has learned to identify colors like red, green, orange and a zebra crossing as well. "Whenever there's a red signal, the car stops. As it turns green, the car moves ahead. Similarly, the car has learned to turn left or right or take a U-turn on a particular path." Apart from this, the car stops and guides itself through a new path whenever it comes across an obstacle. "Depending on the size and shape, the car identifies the object as an obstacle and this is again based on the different pictures it captures," he added.

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My aim is not just to score good marks in academics but also to make

17-18





It also has a mike for communication during rescue operations or in calamities. It can avoid obstacles on its own with the help of Arduino sensor.

The Hexapod can also be used in nuclear power plants for obtaining live temperature readings and for military spying.

The cost of the prototype version is '25,000, but can be reduced, once produced on a large scale.

"The robot is inspired from the movement of insects and can be used in mining industries", said Ravishankar. The device was designed by Aravind Valsalan, Harsha M N, Anudeep Mediseti and Deepak Kumar of Saphthagiri College of Engineering.

### D500 aid to detect obstacles

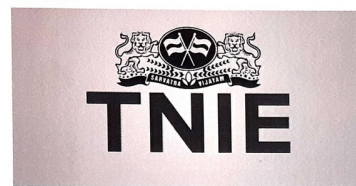
Aiming to help the visually challenged gain independence, the students also developed an aid that costs only '500, and which can detect obstacles and water to help the user safely navigate roads. The device is integrated with ultrasonic sensors along with water-sensing feature and the ultrasonic transceiver modules help in detecting obstacles in the front, above and below knee-level of the person, using ultrasonic waves. A special feature in this stick is that the sounds produced by the stick are different for obstacles and water detection. Also, radio frequency remotes help in locating the device, if it gets lost. Pavan Kumar H D, one of the four student inventors said, "Every time the person uses the remote, the sound will be emitted which can be easily heard by visually challenged people since they have a unique ability to follow sounds." The student designers Pallavi S, Pavan Kumar H D, Poorva H and Shilpa H S were thinking of upgrading the prototype since it focused only on static obstacles by infusing dynamic changes which will help the visually challenged to navigate through heavy crowds.

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TAGS Saphthagiri College of Engineering robot

ThinkEdu 2020



Modi keeps his critics far away and that's not helping him: Swamy

<http://www.saphthagiri.edu.in/uploads/34ad5752c083ae8e3201025e02c830fa.pdf>

<https://www.youtube.com/watch?v=0GwF6yG5sy0>



Shashank R - ISG16ME097  
Varun V - ISG16ME106

Case study 17-18

## Material Science Approach towards collapse on WTC, New York

The WTC in lower Manhattan, New York city was destroyed during the terrorist attacks of September 11, 2001 after being struck by two hijacked commercial airliners.

"Fire" is the most misunderstood part of the WTC collapse. However, people often confuse Temperature and heat. While they are related, they are not the same. Thermodynamically, The heat content in the material is related to temperature.

The fact was that there were 40000L of Jet fuel. If the fuel and oxidant start at ambient temp, a maximum flame temp can be defined.

The maximum temp was  $3000^{\circ}\text{C}$ ,  $1000^{\circ}\text{C}$  is hardly sufficient to melt the steel.

It is known that structure steel begins to soften around  $425^{\circ}\text{C}$  and loses its half of the strength. Thus the failure of the steel was due to two factors.

- Loss of strength due to temperature of fire.
- Loss of structural integrity due to distortion from the non uniform temperature in the fire.

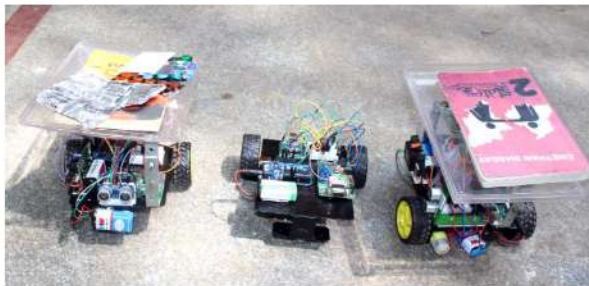
Prateek C.N

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### Experienced learning, participative learning and problem solving

SAPTHAGIRI COLLEGE OF ENGINEERING - Invented MULTI ROBOT SYSTEM TO RENDER SERVICE AND SURVEILLANCE IN HOSPITAL



Bengaluru- October- 28 :- The shortage of staff has been a major matter of concern from the past decade. Sometimes hospitals are overcrowded with patients and with stressed out workers which might make patients waiting too long for assistance. Currently the project brings out a technical solution to provide service such as delivery of tablets, magazines and in future even planned to supply water bottles, prescriptions, tablets and other feasible things for the impatient and also to the attendant with the help of robots. Along with service the robots will provide surveillance for fire hazards.



The sensors, actuators and communication unit form a synergic solution for the project. Ultrasonic sensors are used to sense the obstacles and then robot will travel in another path. A flame sensor is used to detect fire hazards and a buzzer is interfaced to alert the surrounding people in case of fire. Zigbee is used to establish communication between the robots. For long distance communication GSM is incorporated.



The robots are attached with trays wherein newspapers or magazines are kept which will be taken to every patient bedside. Robots are used in the place where it is necessary but not to create unemployment.

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e-ISSN: 2395-0056 p-ISSN: 2395-0072

**International Research Journal of Engineering and Technology (IRJET)**

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*Is hereby awarding this certificate to***Mahesh S***In recognition the publication of the manuscript entitled****Sugarcane Bagasse Reinforced Polyester Composites****published in Irjet Journal Volume 5 Issue 5 May 2018*


Impact Factor : 6.171

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## Design and fabrication of remote controlled lawn mower

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### Abstract

An automatic lawn mower is a device or a robot which helps human to cut grass automatically. Rapid growth of various high-tech tools and equipment makes our job done comfortable and sophisticated. This project considers the implementation of a robot which can be operated wirelessly using Bluetooth technology. Every action of the lawn mower is controlled by the microcontroller which eliminates the use of perimeter wires to maintain the robot within the lawn. In addition, the project aims at fabricating a lawn mower which makes the grass cutter motor run through solar energy.

The electricity requirement of the world is increasing at an alarming rate due to industrial growth, increased and extensive use of electrical gadgets. Hence solar energy is the best alternative source. This project will reduce environmental and noise pollution. Its prototype is user friendly, cost efficient and environmental friendly.

**Keywords:** grass cutter, solar, motor, battery, arduino, etc.

### 1. Introduction

Moving the grass cutters with a standard motor is inconvenient, and no one takes pleasure in it. Classical grass cutters with heavy engines create pollution due to the combustion in the engine. Motor powered engines require periodic maintenance such as changing the engine oils etc. If electric grass cutter is corded, moving could prove to be problematic and dangerous. Along with motor powered lawn mowers, electric lawn mowers are also hazardous and cannot be easily used by all. Also, if the electric lawn mower is corded, mowing could prove to be problematic and dangerous. The self propelling electric remote control lawn mower is a lawn mower that has remote control capability.

The main objective of our project is to develop a lawn mower which reduces human effort so that elderly users can fulfill their tasks by themselves. The working range is also increased due to the absence of main supply wires.

### 2. Working Principle

The working principle of solar grass cutter is it has panels mounted in a particular arrangement at an in such a way that it can receive solar radiation with high intensity easily from the sun. These solar panels convert solar energy into electrical energy. This electrical energy is stored in batteries by using a solar charger. The motor is connected to the batteries through connecting wires. The designed solar powered lawnmower comprises of direct current (D.C) motor, a rechargeable battery, solar panel, a stainless steel blade and control switch. Mowing is achieved by the D.C motor which provides the required torque needed to drive the stainless steel blade which is directly coupled to the shaft of the D.C motor.

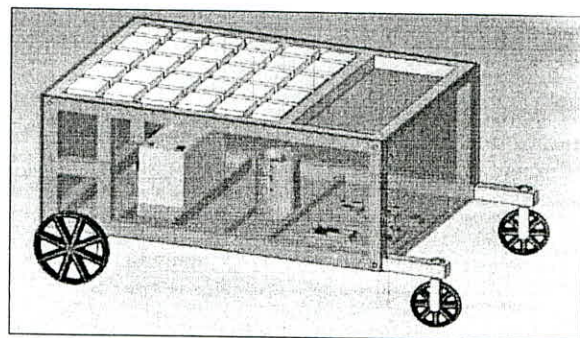


Fig 1: 3D model of the lawn mower

The movement of the lawn mower is controlled by a microcontroller which uses Bluetooth technology. In our project, we have used Arduino 1.0.5 IDE compiler for wireless operation.



Fig 2: Working model

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# Sugarcane Bagasse Reinforced Polyester Composites

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<sup>1,2,3,4</sup>U.G. Students

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**Abstract:** A composite material is made by combining two or more materials to give a unique combination of properties, one of which is made up of stiff, short fibres and a binder, a binder or 'matrix' which holds the fibres in place. The fibres are strong and stiff relative to the matrix and are generally orthotropic. More recently natural fibers have been employed in combination with plastics. The abundant availability of natural fibre in India such as Jute, Coir, Pineapple, Sugarcane, Kenaf, Bamboo, Banana etc. gives attention on the development of natural fibre composites primarily to explore value-added applications. Reinforcement with natural fibre in composites has recently gained attention due to low cost, low density, acceptable specific properties, ease of separation, enhanced energy recovery, CO<sub>2</sub> neutrality, biodegradability and recyclable nature. Recently the interest in composite materials reinforced with natural fibers has considerably increased due to the new environmental legislation as well as consumer pressure that forced manufacturing industries to search substitutes for the conventional materials, e.g. glass fiber. The objective of paper is to evaluate the mechanical properties and characterization of sugarcane bagasse reinforced polyester composite.

**Keywords:** Sugarcane Bagasse Composite, Tensile Test, Bending Test, Water Absorption Test.

## 1. Introduction

### 1.1 Need of Composites:

Plastics and Ceramics have been the dominant emerging materials. The volume and numbers of applications of composite materials have grown steadily, penetrating and conquering new markets relentlessly. Modern composite

materials constitute a significant proportion of the engineered materials market ranging from everyday products to sophisticated niche applications. While composites have already proven their worth as weight-saving materials, the current challenge is to make them cost effective. The efforts to produce economically attractive composite components have resulted in several innovative manufacturing techniques currently being used in the composites industry. The composites industry has begun to recognize that the commercial applications of composites promise to offer much larger business opportunities than the aerospace sector due to the sheer size of transportation industry. Thus the shift of composite applications from aircraft to other commercial uses has become prominent in recent years.


### 1.2 Definition of Composite

Composites are multifunctional material systems that provide characteristics not obtainable from any discrete material. They are cohesive structures made by physically combining two or more compatible materials, different in composition and characteristics and sometimes in form. The weakness of this definition resided in the fact that it allows one to classify among the composites any mixture of materials without indicating either its specificity or the laws which should given it which distinguishes it from other very banal, meaningless mixtures. The composites should not be regarded simple as a combination of two materials. In the broader significance; the combination has its own distinctive properties. In terms of strength to resistance to heat or some other desirable quality, it is better than either of the components alone or radically different from either of them.



# seminar presentation



  
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poster presentation

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DEPARTMENT OF BIOTECHNOLOGY

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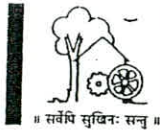
**MADURAI, TAMIL NADU**

held on 8<sup>th</sup> & 9<sup>th</sup> March 2018

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..... in National Conference on "Applications of Microbiology in Human welfare" organized by Department of Microbiology, University College of Science, Tumkur University, Tumkur held on 30-01-2018.

  
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in the National Conference on "Advances in Biotechnology" Organized by the Department of Biotechnology, University College  
of Science, Tumkur University, Tumakuru held on 29<sup>th</sup> January 2018.

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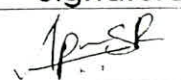
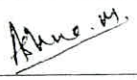




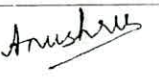
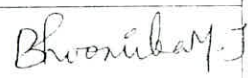
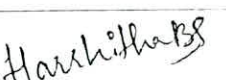

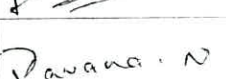
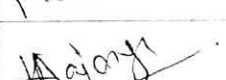
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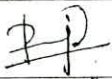



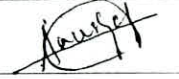

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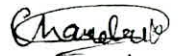

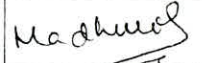



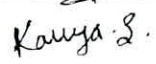

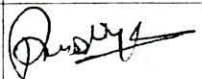


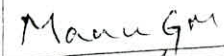


**SAPTHAGIRI COLLEGE OF ENGINEERING**  
**Department of Information Science & Engineering**  
**Project titles for VIII Semester 2017-18**

Batch No.	Title of the Project	Name of the Guide	Signature of Guide	Name & USN of Students in the batch	Students Signature
B-1	NetSpam: A network based spam detection framework for reviews in online social media	Prof.Sunitha K.	VCS	1 APOORVA S R 1SG14IS014	
				2 ASHNA M 1SG14IS015	
				3 KAVANA HEMANTH 1SG14IS036	
				4 NIKITHA MANDHANA 1SG14IS057	
B-2	Mental health research data analysis using privacy preservation	Prof.Sheethal T G	S	1 AMRIN KHAN 1SG14IS005	
				2 ANKITA UMAPATI HEGDE 1SG14IS010	
				3 ANUSHREE P GALGALI 1SG14IS013	
				4 BHOOMIKA M J 1SG14IS019	
B-3	IOT based intelligent anti-theft tracing and accident detection system for automobiles	Prof. Veena V	V	1 HARSHITHA B S 1SG13IS033	
				2 LAKSHMI S 1SG13IS045	
				3 PAVANA N 1SG13IS075	
				4 KRISHNAPRIYA K A 1SG13IS042	







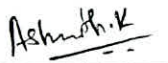




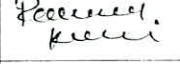


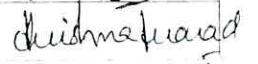




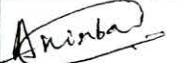
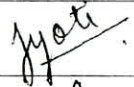



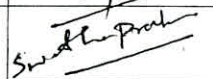




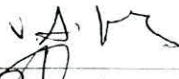
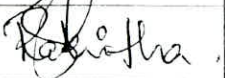
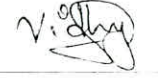
Batch No.	Title of the Project	Name of the Guide	Signature of Guide	Name & USN of Students in the batch	Students Signature
B-4	Robust and auditable access control with multiple attribute authorities for public cloud storage	Prof. Gayathri R.		1 POOJA JAI RAJ 1SG13IS079	
				2 HARSHITHA S 1SG14IS030	
				3 LAVANYA R 1SG14IS042	Lavanya. R.
				4 MADHU M KAMALAPUR 1SG14IS045	Madhu
B-5	Real time free parking slots tracking using IOT technology	Prof. Prerana Chaithra		1 ANKITA GANAPATI BHAT 1SG14IS009	
				2 ANUSHA S 1SG14IS012	
				3 NEETHA PAI K 1SG14IS054	Neetha
B-6	Identify and rank prevalent news topics using social media factors	Prof. Divyashree G		4. RANJINI S 1SG14IS401	
				1 MEGHA C 1SG13IS051	Megha
				2 MEGHANA G 1SG13IS052	Meghana
				3 AISHWARYA G R 1SG13IS400	Aishwarya
				4 PRERANA PRIYA 1SG13IS084	Prerana



Batch No.	Title of the Project	Name of the Guide	Signature of Guide	Name & USN of Students in the batch	Students Signature
B-7	Security preserving Top-K query processing for two-tiered sensor networks	Prof.Sanjay Kumar J H		1 CHANDRIKA M R 1SG14IS022	
				2 DEEKSHA 1SG14IS025	
				3 MADHURI S 1SG14IS046	
				4 MANASA A 1SG14IS048	
B-8	Design and implementation of smart doorway security and botnet using IOT	Prof. Vijay Kumar F.G		1 MONICA R 1SG13IS055	
				2 KAVYA S 1SG14IS037	
				3 M NISHANTH 1SG14IS044	
				4 PIYUSH AROLIYA 1SG14IS059	
B-9	Privacy Preserving BigData Clustering	Prof. Vijay Kumar F.G.		1 KEERTHI P 1SG14IS038	
				2 MANU G M 1SG14IS049	
				3 NAGESH HEBBAR K M 1SG14IS052	
				4 NATARAJ D S 1SG14IS053	







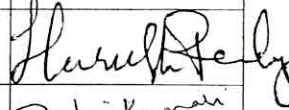

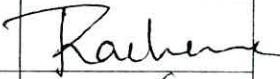
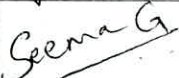

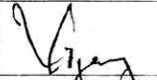
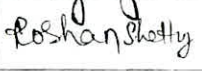


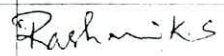
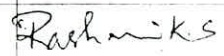
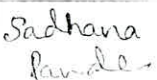


Batch No.	Title of the Project	Name of the Guide	Signature of Guide	Name & USN of Students in the batch	Students Signature
B-10	Secure event management system for swift response	Prof. Gayathri R.		1 HEMANTH G 1SG14IS031	
				2 KIRAN KUMAR N 1SG14IS039	
				3 MOHAMMAD ROUF TAHIR 1SG14IS051	
				4 NISCHAL BABU P.N. 1SG14IS058	
B-11	Rating forecast based on social attitude from textual analysis	Prof.Ranganatha H R		1 ASHWITH SHETTY K 1SG14IS017	
				2 KARTHIK S H 1SG14IS035	
				3 NIKHIL B 1SG14IS055	
				4 NIKHIL S NAYAK 1SG14IS056	
B-12	Effective prediction of missing data on apache spark over multivariable time series	Prof.Ranganatha H R		1 POONAM KUMARI 1SG14IS080	
				2 S V R S SAI KRISHNA 1SG13IS116	
				3 ABHISHEK SINHA 1SG14IS002	
				4 KRISHNAPRASAD	

Batch No.	Title of the Project	Name of the Guide	Signature of Guide	Name & USN of Students in the batch	Students Signature
B-13	Location based browser for secure mobile banking	Prof. Ravichandra M		1 AISHWARYA MITRA 1SG14IS003	
				2 ANIRBAN BANERJEE 1SG14IS006	
				3 JYOTI VERMA 1SG14IS032	
				4 KANHIYA RAJ 1SG14IS034	
B-14	A new multimodal approach for password strength estimation-part 1: Theory and algorithm	Prof. Sowmya Somanath		1 VIJAY R 1SG14IS103	
				2 SWETHA PRABHAKAR 1SG14IS095	
				3 PUNEETH KUMAR K 1SG14IS402	
				4 TEJAS ROA 1SG14IS097	
B-15	Anonymous authentication for secure data store on cloud with decentralized access control	Prof. Vijay Kumar F.G		1 PRAVEEN 1SG14IS062	
				2 V.A KOUSHIK 1SG14IS099	
				3 RAKSHITHA PRAKASH 1SG14IS069	
				4 VIDHYA G 1SG14IS102	


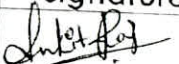
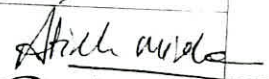



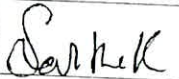


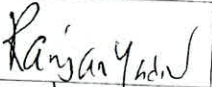


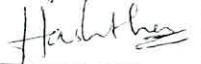
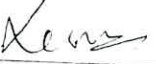








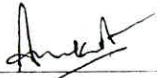

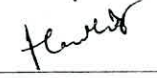
Batch No.	Title of the Project	Name of the Guide	Signature of Guide	Name & USN of Students in the batch	Students Signature
B-16	Realization of DNA cryptography in cloud computing and using socket programming	Prof. Gayathri R.		1 SPOORTHY K S 1SG14IS092	
				2 SHALINI K J 1SG14IS086	
				3 SHREYAS K V 1SG14IS087	
				4 HEMANTH 1SG14IS401	
B-17	Neutrality based video recommendation system	Prof. Kavyashree K		1 RAMYA 1SG14IS070	
				2 PREETHI D K 1SG14IS063	
				3 SURABHI S 1SG14IS094	
				4 SWATHI S R 1SG14IS081	
B-18	Energy efficient multipath routing protocol for mobile adhoc network using the fitness function	Prof. Prerana Chaithra		1 RAMYASHREE T R 1SG14IS071	
				2 RAKSHITHA K 1SG14IS068	
B-19	An innovative approach to predict the vulnerability on trend languages on cloud with third party support	Prof. Prerana Chaithra		1 SHRUTHI K PAMADI 1SG14IS089	
				2 SUMA B N 1SG14IS093	
				3 REKHA B C 1SG14IS075	
				4 SNEHA P 1SG14IS091	
B-20	A framework for improving security using homomorphic encryption in cloud computing	Prof. Veena V		1 VARSHASHEKAR 1SG14IS100	
				2 TANUSHREE K C 1SG14IS096	
				3 PRIYA M PAI 1SG14IS064	

Batch No.	Title of the Project	Name of the Guide	Signature of Guide	Name & USN of Students in the batch	Students Signature
B-21	Product prediction segmentation of customers using data mining and machine learning	Prof.Sanjay Kumar J H		1 RANJAN P NADIG 1SG14IS073	
				2 UDAYA BHARGAVA B S 1SG14IS098	
				3 DHARMENDRA SINGH 1SG15IS400	
				4 VINAY P SHETTY 1SG14IS105	
B-22	Searching of rank fraud and detection of malware in google play	Prof. Ramya R		1 S HARISH REDDY 1SG14IS080	
				2 RUHI KUMAR 1SG14IS079	
				3 RACHANA D 1SG13IS089	
				4 SEEMA G NAIK 1SG14IS085	
B-23	Distributed denial of service flooding attacks with dynamic path identifiers	Prof.Ranganatha H R		1 VIJAY KUMAR S 1SG13IS406	
				2 ROSHAN SHETTY 1SG14IS078	
				3 VIJAY D 1SG15IS404	
B-24	Privacy Protection in Smartphone using Cloud Computing	Prof. Divyashree G		1 RICHA RASHMI 1SG14IS076	
				2 RASHMI KUMARI S 1SG14IS074	
				3 SADHANA PAWALE 1SG15IS403	

Principal  
Sapthagiri College of Engineering  
Chikabandra, Hesaraghatta Road,  
Bangalore-560 057



No.	Title of the Project	Name of the Guide	Signature of Guide	Name & USN of Students in the batch	Students Signature
B-25	Efficient point of interest route search on road networks	Prof. Sowmya Somanath		1 ANKIT RAJ ISG14IS008	
				2 ATISH MISHRA ISG14IS018	
				3 DEBASHIS SAHA ISG14IS024	
				4 ABHAS SRIVATSAVA ISG14IS001	
B-26	Child safety wearable device	Prof. Ravichandra M		1 SARTHAK SINHA ISG14IS083	
				2 SHUBHAM SRIVASTAVA ISG14IS090	
				3 VIKRAM SINGH ISG14IS104	
				4 RANJAN YADAV ISG14IS072	
B-27	Secure sensitive data sharing on a big data platform	Prof. Ramya R		1 ASHWINI G A ISG14IS016	
				2 HARSHITHA R ISG14IS029	
				3 LEESA CHAUBEY ISG14IS043	
B-28	Data replication and sharing in mobile adhoc networks to increase access ability	Prof. Ravichandra M.		1 NAVEEN S ISG13IS060	
				2 HEMANTH KUMAR ISG14IS036	
				3 PRKASHA C G ISG14IS400	
				4 CHANDRASHIEKAR H.D ISG14IS021	

Batch No.	Title of the Project	Name of the Guide	Signature of Guide	Name & USN of Students in the batch	Students Signature
B-29	Profit maximization in cloud computing	Prof. Sheetal Raj T.G.		1 ANKIT SINGH 1SG14IS007	
				2 BIPIN VISHAL 1SG14IS020	
				3 HARSHIL GUPTA 1SG14IS028	

### Project Coordinators

Prof. Prerana Chaithra

Prof. Gayathri R.

Prof. Vijay Kumar F.G.


H R Roy

**HOD**  
Department of

Information Science & Engg  
Sapthagiri College of Engineering  
14/5, Chikkasandra, Hesarahatta Main Road  
BANGALORE - 560 057

Sapthagiri College of Engineering  
Chikkasandra, Hesarahatta Main Road,  
Bangalore-560 057





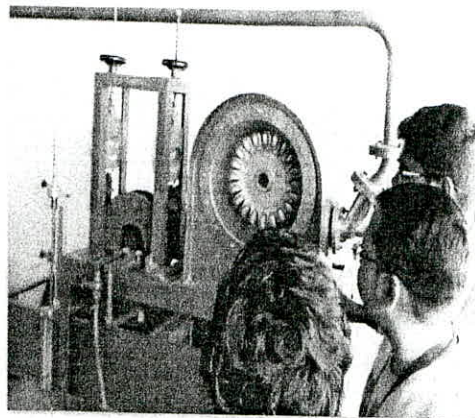
# SAPTHAGIRI COLLEGE OF ENGINEERING

Hesaraghatta Main Road, Bengaluru – 560057

## DEPARTMENT OF MECHANICAL ENGINEERING

Teaching Learning Methods

PEER TEACHING/PEER LEARNING/ GROUP ACTIVITY/EXPERIENCED  
LEARNING/PARTICIPATIVE LEARNING




A group of students explaining Pelton wheel and its applications.

Subject: Elements of Mechanical Engineering subject. They identified parts of Pelton wheel.

  
HOD

H.O.D. Dept. of Mech. Engg  
S.C.E., Bangalore-560 057

  
Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057

# Evaluation of Mechanical Properties of Polymer Composites Reinforced with Jute Mat Fiber and Egg Shell Powder for Ligaments and Tendons Replacement

Manoj M Bhat<sup>1</sup> Madhu Niranjan H T<sup>2</sup>  
Aksheth<sup>3</sup> Namit S Naik<sup>4</sup>

U.G. Students,  
Department of Mechanical Engineering,  
Sapthagiri College of Engineering, Bangalore,  
Visvesvaraya Technological University,  
Belagavi, Karnataka.

T. Venkate Gowda<sup>5</sup> Anil Kumar P R<sup>6</sup>

Assistant Professors,  
Department of Mechanical Engineering,  
Sapthagiri College of Engineering, Bangalore,  
Visvesvaraya Technological University,  
Belagavi, Karnataka.

**Abstract** — In this present world scenario composite materials have a wide range of applications, but we are basically concerned over their medical applications. Fiber reinforced composite materials comprises of fiber embedded in matrix materials, which are discontinuous fiber or short fiber composites. These composites have a better bending, buckling and good tensile properties. Of the commonly available annual crop fibers jute contains one of the highest proportions of stiff natural cellulose, approximately 75 wet %. Jute may be combined with phenolic, epoxy and polyester resins to form composite materials, and it has been laminated with glass fiber to form hybrid composites. Further to enhance then flexural strength, jute fiber is treated with urea. The composite fiber is incorporated with egg shell powder to increase the tensile strength and bending properties, because greater the filler contents higher are the properties.

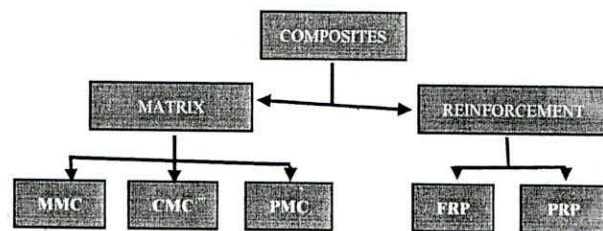
## 1. INTRODUCTION

Basically, when two or more than two chemically distinct materials are combined, produces synergistic effect, with a distinct separating interface of component. Due to this the component gets aggregate properties different from the component by which it is formed. The main components cannot compete with the composites in terms of properties. The component materials can be metal, ceramic or polymer etc. The use of natural or plant fiber reinforced composite is increasing with time. This is due to its advantages like low cost, ease of availability, light weight etc. The important and exclusive properties of natural composite are its renewability and biodegradability. These properties with low cost fulfil the economic interest of industries. These materials are eco-friendly and use of green materials in these composites also provides an alternative way to deal with agricultural residue. Apart from the industrial application composites have wide range of medical application and researches have been extensively carried out for their implementation. One among such application is replacement of ligaments and tendons with composite fibers whose failure is mostly common during accidents and injuries in day to day life. Composite fibers produced from naturally occurring jute fibers have extensive tensile strength and bending properties and are also safe to be embedded in human body.

### 1.1 DEFINITION OF COMPOSITES

A composite material is a material made from two or more constituent materials with significantly different physical or chemical properties that, when combined, produce a material with characteristics different from the individual components.

### 1.2 Classification of Composites



#### 1.2.1 Basic Types of Composites

Based on Matrix

1. Metal Matrix Composites (MMC)
2. Ceramic Matrix Composites (CMC)
3. Polymer Matrix Composites (PMC)

Based on Reinforcement

1. Fiber reinforced polymer (FRP)
2. Particle reinforced polymer (PRP)

### 1.3 Natural Fiber Reinforced Composite

Natural fibers are used for reinforcing material. These have complicated structure, with crystalline cellulose microfibril-reinforced amorphous lignin or/and hemi-cellulose matrix. Natural fibers are constitutes of cellulose, hemi-cellulose, lignin, waxes and some water-soluble compounds. The major component of it are cellulose (60%-80%), hemi-cellulose (5%-20%), lignin and moisture (20%). They are renewable, cheap, completely or partially recyclable, and biodegradable. Plants such as flax, cotton, hemp, jute, sisal, pineapple, ramie, bamboo, banana, etc., as well as wood, used from time immemorial as a source of lingo celluloses fibers are more and more often applied as the reinforcement of composites. Their availability, renewability, low density, and price as well as satisfactory mechanical properties make them an attractive ecological alternative to glass, carbon and man-made fibers used for the manufacturing of composites. The natural fiber containing



# Free Vibration Behaviour of Alkali Treated Long Kenaf Fibre Reinforced Epoxy Composites

Ganesh CJ<sup>1</sup> Dhanush Kumar M R<sup>2</sup>

Dilip G<sup>3</sup> Adarsh C<sup>4</sup>

<sup>1,2,3,4</sup>U.G. Students,

Department of Mechanical Engineering,  
Sapthagiri College of Engineering, Bangalore,  
Visvesvaraya Technological University,  
Belagavi, Karnataka.

T. Venkate Gowda<sup>5</sup> Anil Kumar P R<sup>6</sup>

<sup>5,6</sup>Assistant Professors,

Department of Mechanical Engineering,  
Sapthagiri College of Engineering, Bangalore,  
Visvesvaraya Technological University,  
Belagavi, Karnataka.

**Abstract**—Two or more chemically different constituents combined macroscopically to yield a useful material are called composites. There are several naturally occurring composites such as Wood where cellulose fibers are bounded by lignin matrix, also bone and granite are typical examples of naturally occurring composites. Some of the manmade composites are concrete, plywood, glass, Kevlar etc. During recent times, due to increasing interest and research focus in eco-friendly materials, studies on natural plant fibers like Kenaf, Jute, Hemp, Coir are typically used in composites as reinforcing materials. These natural fibers are not only strong and light weight but also relatively cheap and biodegradable. Nowadays manufacturing sectors are in constant research of such materials having low density, low cost, corrosion resistance, good impact toughness as well as chemical resistance. The natural fibers have all these required properties and hence they serve as better replacement for the present materials in various fields including automotive industries. These natural fibers can be very advantageous composites when proper resin has been selected with it.

**Keywords**—Long Kenaf fiber, Epoxy resin

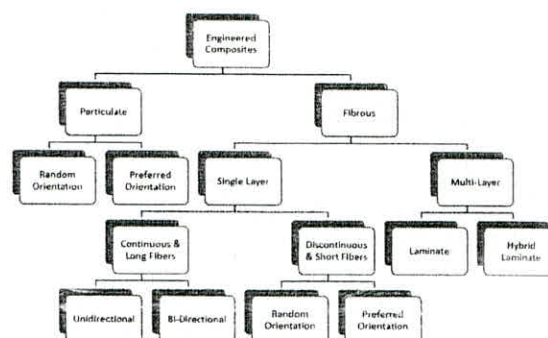
## 1. INTRODUCTION

The major automakers are increasingly turning to composites to help them meet performance and weight requirements, thus improving fuel efficiency. Cost is a major driver for commercial transportation, and composites offer lower weight and lower maintenance costs. Typical materials are fiberglass/ polyurethane made by liquid or compression molding and fiberglass/ polyester made by compression molding. Recreational vehicles have long used glass fibers, mostly for their durability and weight savings over metal. The product form is typically fiberglass sheet molding compound made by compression molding. For high-performance Formula 1 racing cars, where cost is not an impediment, most of the chassis, including the monologue, suspension, wings, and engine cover, is made from carbon fiber composites. The commercial applications of composites offer larger business opportunities. Hence introduction of these new polymer resin matrix materials and high performance reinforcement fibers of glass, carbon etc. and the penetration of these advanced materials has witnessed a steady expansion in uses and volume has resulted in reduction of cost. These Fiber Reinforced Polymers have huge applications such as in window panels, doors of automobiles, fuel cylinders, windmill blades, beams of bridges, drive shafts.

## 1.1 Definition Of Composites

A Composite material can be defined as a combination of two or more materials that results in better properties than those of the individual components used alone. In contrast to metallic alloys, each material retains its separate chemical, physical, and mechanical properties. The two constituents are a reinforcement and a matrix. The main advantages of composite materials are their high strength and stiffness, combined with low density, when compared with bulk materials, allowing for a weight reduction in the finished part.

## 1.2 Classification of Composites



### 1.2.1 Basic Types of Composites

Based on Matrix

1. Metal Matrix Composites (MMC)
2. Ceramic Matrix Composites (CMC)
3. Polymer Matrix Composites (PMC)

Based on Reinforcement

1. Fiber reinforced polymer (FRP)
2. Particle reinforced polymer (PRP)

### 1.2.2 FIBRE REINFORCED POLYMER

These fiber reinforced polymers (FRPs, here after referred to as conventional composites) are gaining popularity as primary and secondary structural materials in aerospace, marine, automobile, civil construction applications, sports industry, defense, renewable energy sectors, textile industries and other

17-18 etc

Bangalore,

Date: 14/03/2018

From,

Principal,  
Sapthagiri College of Engineering,  
Hessarghatta main Road,  
Bangalore-560057

To,

Chief Engineer,  
Transmission Zone, Bangalore,  
Ananda Rao Circle, Bangalore.

Dear Sir,

Sub.: Permission for the Visit of VIII Sem EEE students to 220kV, SRS Peenya- Reg.

It is hereby informed that the students of our college, studying in final year of BE would like to visit a 220kV SRS, Peenya. In this connection permission is hereby solicited for their visit to the substation. This will help in value added teaching and it is desired by our college to expose the 8th Semester students of Electrical and Electronics Engineering to Electrical Substations. Familiarization of Electrical equipments used in the field and their positioning in Substation will help them in assimilating their academic knowledge and develops interest in learning the subjects.

We are greatly obliged, if you can allow our students in batches about 30 per batch (Two Batches) to visit your Substation for a technical visit on any two afternoons of 2, 3, 4 of April 2018. For your kind information the college doesn't have foreign national students. A list of students, who would be visiting your substation, is attached with this letter for your perusal. Two of the staff will be accompanying for each batch.

In this connection we also mention that we are fully responsible for the safety of the students and accompanying professors.

Thanking You,

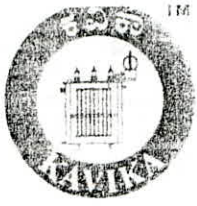
Yours Faithfully,

  
(Dr. Shivabasappa. K.L.)

PRINCIPAL

  
Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057





ಕರ್ನಾಟಕ ವಿದ್ಯುತ್ ಕಾರ್ಖಾನೆ ನಿಯಮಿತ  
(ಕರ್ನಾಟಕ ರಾಜ್ಯ ಸರ್ಕಾರದ ಸ್ವಾಮ್ಯತ್ವದಲ್ಲಿ)  
**KARNATAKA VIDYUTH KARKHANE LIMITED**  
(A Karnataka Government Undertaking)  
ISO-9001-2008 Company CIN : U31101KA1975PLC002954

17-18

KAVIKA/PA/2017-18/ 3600

Date: 16.01.2018

Principal  
Sapthagiri college of Engineering  
Chikkasandra,  
Hesaraghatta Main Road,  
Bangalore – 560 057

Sub:- Permission for Internship  
Ref:- SEC/Rec/4734/2017-18. Date: 10.01.2018.

With reference to your above letter Students 5<sup>th</sup> Semester B.E (EEE) is permitted to do Internship in the area of **"A STUDY ON MANUFACTURING & TESTING OF DISTRIBUTION TRANSFORMER AT KAVIKA LTD"** for a period of 15 days from 16.01.2018 to 30.01.2018.

Sl No.	Student Name	Register No
01.	Navya.S.R	1SG15EE058
02.	Swathi.B.C	1SG15EE091

Sri.M.Manjunath, Assistant Engineer –Winding Department, KAVIKA will guide the students.

Thanking you,

Yours faithfully  
for KARNATAKA VIDYUTH KARKHANE LIMITED

HOD, EEE  
2  
8/2/18

PERSONNEL - OFFICER

Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057

Ref. No. SEC/Rec/4746/2017 - 18

January 12<sup>th</sup>, 2018

To  
The General Manager,  
M/s. Bharath Heavy Electricals Ltd.,  
Malleswaram,  
Bangalore - 560012..

Dear Sir,

We take pleasure in permitting the following students whose details are mentioned below for undergoing internship at your esteemed company. They are bonafide student of this college studying Third year B.E in Electrical and Electronics Engineering course during the academic year 2016-2017.

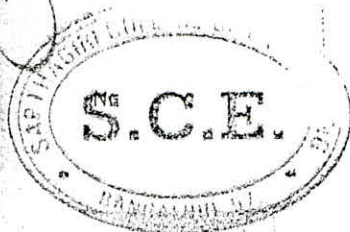
Sl.No	Student Names	USN No.
1	Mr. Pawan Kumar D	1SG15EE061
2	Mr. Sandesh V	1SG15EE080
3	Mr. Sumanth S	1SG15EE088
4	Mr. Ravi Prakash K H	1SG15EE076
5	Mr. Srikant Kadagi	1SG15EE086

They will be attending the internship at your esteemed organization from 5<sup>th</sup> January 2018 to 31<sup>st</sup> January 2018.

We would be highly obliged, if the request is considered favorably.

Their character and conduct is satisfactory.

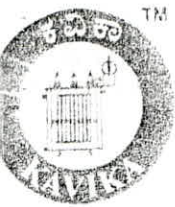
Thanking you ,



  
Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road  
Bangalore-560 057

  
Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057





17-18

**ಕರ್ನಾಟಕ ವಿದ್ಯುತ್ ಕಾರ್ಖಾನೆ ನಿಯಮಿತ**  
(ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ಸ್ವಾಮ್ಯಸ್ಥಾನವಾಗಿದೆ)  
**KARNATAKA VIDYUTH KARKHANE LIMITED**  
(A Karnataka Government Undertaking)  
ISO-9001-2008 Company CIN : U31101KA1975PLC002954

KAVIKA/PA/2017-18/ 3524

Date: 08.01.2018

Principal  
Sapthagiri College of Engineering  
Chikkasandra,  
Hesaraghatta Main Road,  
Bangalore - 560 057

Sub:- Permission for Internship  
Ref:- SCE/Rec/4713/2017-2018/ Date 04.01.2018.

With reference to your above letter Students of 4<sup>th</sup> Year B.E (EEE) is permitted to do Internship in the area of "A STUDY ON MANUFACTURING & TESTING OF DISTRIBUTION TRANSFORMER AT KAVIKA LTD" in our Organization for a period of 1 week from 10.01.2018 to 18.01.2018.

Sl No.	Students Name	Register No
01.	Nagendra.R.Gouthamas	1SG15EE425
02.	Nandeesh.C	1SG15EE427
03.	Rakshith.S	1SG14EE061

Sri.M.Shekar, Assistant Engineer -Testing Lab, KAVIKA will guide the students.

Thanking you,

Yours faithfully  
for KARNATAKA VIDYUTH KARKHANE LIMITED

  
DEPUTY MANAGER - PERSONNEL

Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057

**SAPTHAGIRI COLLEGE OF ENGINEERING**  
**SAPTHAGIRI TECHNICAL EVENTS CLUB (STEC)**

Academic year: 2017-18.

**STEC Head:** 1. Dr. B.S. Krishna, Head of Chemistry Dept., SCE.

2. Dr. Jagadeesha Gowda G, Head of Physics Dept., SCE.

**Lecturer In-charge:** 1. Bharath K Devendra, Department of Chemistry, SCE.

2. Keshav Murthy, Department of Physics, SCE.

**DETAILS OF STUDENTS COORDINATOR**

SI NO	NAME	BRANCH	POST
1.	Ninad	EEE	Technical coordinator/ Treasurer
2.	Vishal	BT	Technical coordinator
3.	Divya	CSE	Technical coordinator/Announcement
4.	Ayush	ISE	Technical coordinator/Announcement
5.	Bharathi	CSE	Technical coordinator/Announcement
6.	Rakshith	EEE	Technical coordinator
7.	Karthik	BT	Technical coordinator
8.	Sanchith	BT	Technical coordinator
9.	Deepika	ECE	Technical coordinator
10.	Gouri	ECE	Technical coordinator/Announcement
11.	Akshatha	ECE	Technical coordinator ✕
12.	Muruli Gopal	ECE	Technical coordinator
13.	Usha	CV	Technical coordinator
14.	Mahika	CSE	Anchor
15.	Sukanya	ISE	Anchor ✕
16.	Shreya	ISE	Anchor
17.	Kasthuri	ECE	Anchor
18.	Ashutosh	ECE	Anchor
19.	Arpitha Prakash	ISE	Anchor
20.	Arpitha Saxena	ISE	Web designer
21.	Geetanjali	ECE	Poster making
22.	Keerthi Kiran	ISE	Poster making
23.	Gayatri	ISE	
24.	Milindh	CSE	Photographer
25.	Rashmi	ISE	Photographer
26.	Sagar	ECE	Photographer ✓

Bharath K Devendra  
(STEC Lecturer In charge)

Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hosaraghatta Road,  
Bangalore-560 057



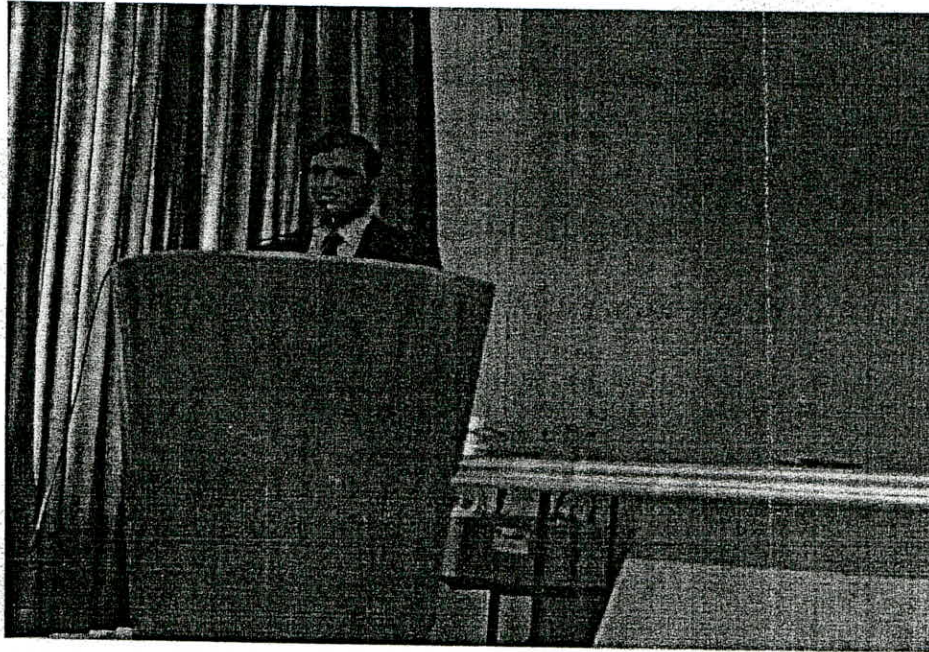
# Guest Lecture Report

*Topic: "Career guidance - Higher Education Abroad and India"*

By

*Mr. Vivek Veeraiah,*

Founder and CEO EdVista Consulting  
Bangalore.



Date: 12.04.2018

Time: 11.30 to 12.30

Venue: Seminar Hall, SCE Bangalore.

Speaker Profile:

**Vivek Veeraiah** founder and CEO of EdVista Consulting. Completed his MS, MBA from New York University. He completed HBX CORE from Harvard Business School. He is also Administrative Director and Adjunct Professor at New York University.

Lecture details:

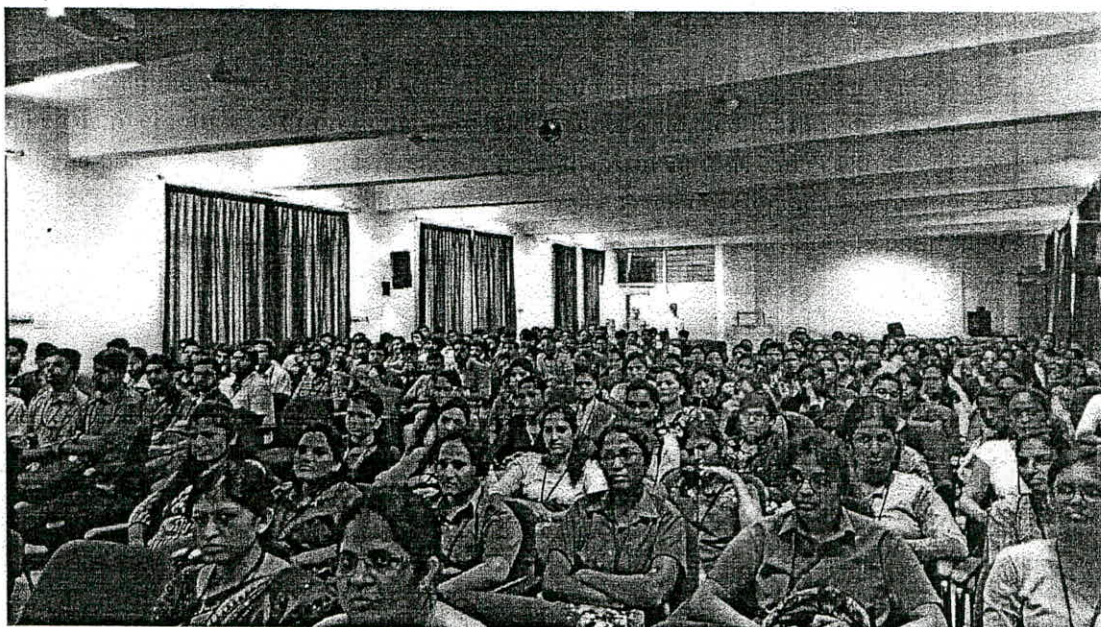
Most of the students are in a state of confusion to choose their career ahead after engineering. The choice are many, advises galore all adding up to the grand confusion. For this reason Dept of ECE set up guest lecture on the Career Guidance for higher education.

*[Signature]*  
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Bangalore-560 057



The programme started with the welcome note and introduced the guests. The speaker has taken a novel initiative of providing structured career guidance for the engineering students with an objective of creating awareness among them on various career choices of available after engineering. Career Guidance was a comprehensive, developmental program designed to our students in making and implementing informed higher educational opportunities and occupational choices.

Career guidance and counselling program develops an individual's competencies in self-knowledge, educational and occupational exploration, and the right career planning. Every higher education intended student requires an informative and dynamic seminar that will prepare them for those life-changing career decisions that they face. This career guidance program has put them in touch with today's changing global marketplace trends and tomorrow's career opportunities.



*Students and faculties attending sessions of Mr. Vivek Veeraiah*


  
Guest Lecture/FDP/Workshop Co ordinator

Prof. Vani V & Prof. Vani A

  
HOD ECE

Prof. Sandhya Rani MH

13/04/2018

  
Principal  
Sathagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore - 560 057



# Guest Lecture Report

## Topic: "Career Opportunities in Civil Services"

By

**Mr. Prakhar Pandey**  
KAS Officer,  
Alumni, Dept of ECE  
Sapthagiri College of Engineering  
Bangalore



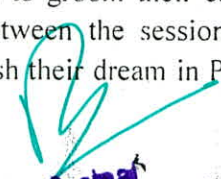
Date: 04.04.2018

Time: 11 am to 12.30 am

Venue: Seminar Hall, SCE Bangalore.

The session started with the introduction to Guest Mr. Prakhar Pandey, KAS Officer, Karnataka Commercial Tax Service(KCTS) and GST, Ministry of Finance, Govt of Karnataka. He also worked as Executive officer, Ministry of Home affairs, Ministry of Home affairs, Govt of India and he is also our alumni Department of ECE, SCE. He started the session with his college day memories as a student of ECE SCE. He advised the student to attend all the lecture and dedicate their next few years to built strong career.

The guest lecture was motivational speech for engineering students to groom their career. Most of the Civil services exams questions were discussed in between the session and motivated the students to take up Civil services entrance to accomplish their dream in Public

  
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sectors. Speaker also emphasizes that UPSC entrance score is considered during recruitment process in the public sector.



*Students and faculties attending the Guest lecture by  
Mr. Prakhar Pandey*

  
Prof. Vani V & Prof. Vani A  
Guest Lecture/FDP Co-ordinators

  
Prof. Sandhya Rani MH  
HOD ECE

  
Principal  
Sapthagiri College of Engineering  
Chikkasanara, Hosaraghatta Road,  
Bangalore-560 057



# Guest Lecture Report

## *Topic: "Introduction to Semiconductor Industry"*

By

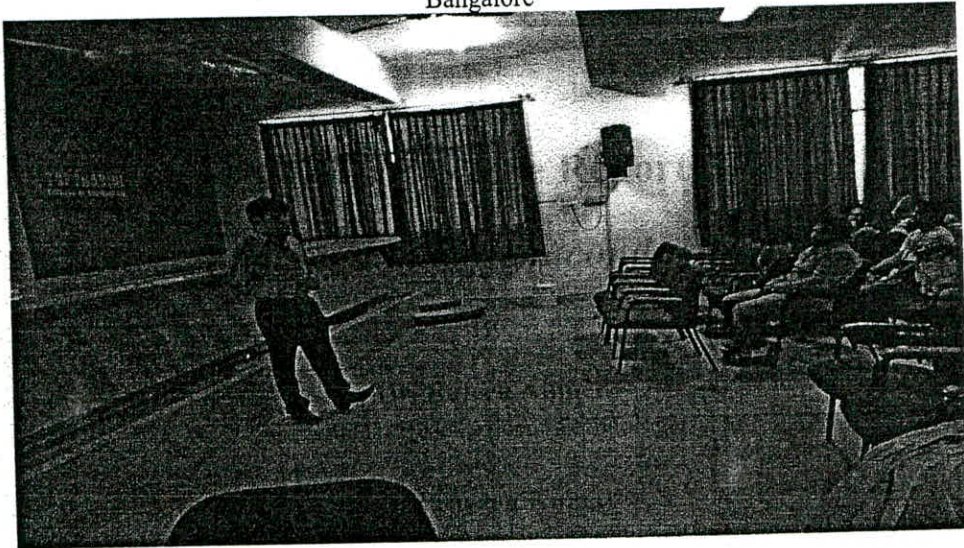
**Mr. Rafeek Ahmed**

Technical Head, Aricent Technologies

&

**Mr. Praveen Kumar**

Project Head, Aricent Technologies  
Bangalore



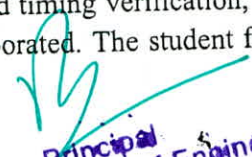
Date: 28.02.2018

Time: 09.30 am to 10.30 am

Venue: Seminar Hall, SCE Bangalore.

The session started with the introduction to semiconductor devices and semiconductor industry. Speaker emphasized on the scope for the semiconductor development. They briefed about the classification of the semiconductor designs. They gave the clear idea about different fields that are related to the development of the semiconductor devices.


Further speaker gave the complete idea of design flow from specification to manufacturing of the semiconductor devices. It includes the process like collection the requirements and setting the constraints for the devices. The design of semiconductor devices through HDL and analog design were discussed. The process of synthesis, functional and timing verification, physical design, design for testability and formal verification were elaborated. The student found the


  
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session to be useful to fill the gap between academic and industry about the semiconductor device implementation.



*Students and faculties attending the Guest lecture by  
Mr.Rafeek Ahmed & Mr.Praveen Kumar*

  
Prof. Vani V & Prof. Vani A  
Guest Lecture/FDP Co-ordinators

 28/07/18  
Prof. Sandhya Rani MH  
HOD ECE

  
Principal  
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Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057



# Guest Lecture Report

## *Topic: "Signals and Systems"*

By

**Mr.Jaiprakash Rau ,**

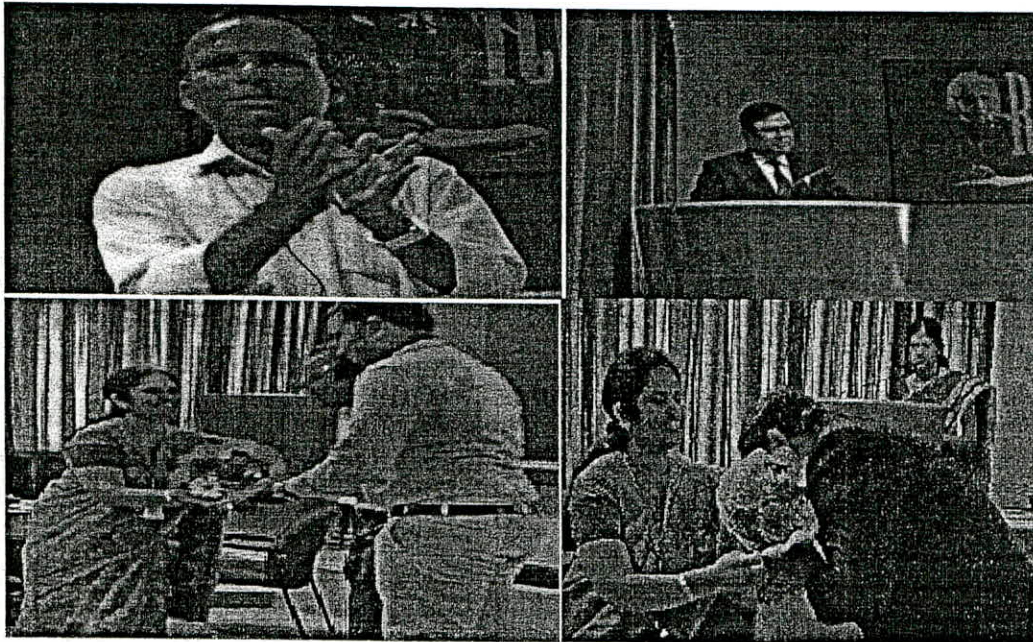
Former Civil servant as Indian Revenue Service Officer ,Joint Commissioner Income Tax (Gujrat Cadre).

and

**Dr.KS Lakshminarayanan,**

Former Professor and HOD, SV College of Engg Chittor AP , PhD from JNTU Ananthapur.

Bangalore



Date: 13.09.2017

Time: 11.30 am to 12.30 pm

Venue: Seminar Hall, SCE Bangalore.

The session started with introduction to the guest by Prof. Vani V. The speaker B. JAIPRAKASH RAU, former Civil Servant as Indian Revenue Service officer, voluntarily retired as Joint commissioner Income Tax ( Gujarat cadre). A successful Career coaching and corporate trainer with 21 years of experience in enhancing and evaluating communication skills, which includes 8 years of highly challenging Pharmaceutical Sales experience. The second speaker Dr. K.S.LAKSHMINARAYANAN is a former Professor and HOD SV College of Engineering Chittor,AP.

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The guest lecture was motivational speech for engineering students to groom their career. Most of the GATE exams questions were discussed in between the session and motivated the students to take up GATE entrance to accomplish their dream in IITs and IISc. Speaker also emphasizes that GATE entrance score is considered during recruitment process in the public sector.



*Students and faculties attending guest lecture sessions.*

Prof. Vani V & Prof. Vani A *5/1/18*

*FDP/ Guest Lecture Co ordinator*

*Sandhya Rani MH*  
Prof. Sandhya Rani MH

*HOD ECE*

*Principal*  
Sapthagiri College of Engineering  
Chikkasandra, Hosaraghatta Road,  
Bangalore-560 057



# Guest Lecture Report

## Topic: "Satellite Communication"

By

*Mr. Tosicul Wara,*

Senior Engineer spacecraft checkout group  
ISAC ISRO.  
Bangalore



Date: 09.05.2017

Time: 11.00 am to 12.30 pm

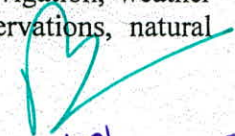
Venue: Seminar Hall, SCE Bangalore.

### Speaker Profile:

### Lecture details:

The programme started with the welcome note by Prof. Vani A and introduced the guests. The speaker has taken a novel initiative of providing introduction to the satellite communication development in ISAC for the engineering students with an objective of creating awareness among them. ISRO Satellite Centre is the lead centre of the Indian Space Research Organisation (ISRO) responsible for design, development, assembly & integration of communication, navigation, remote sensing, and scientific and small satellite missions.

The specialized teams of scientists, engineers and technicians of ISAC have built more than 75 complex & advanced satellites for various applications in areas of telecommunications, television broadcasting, VSAT services, tele-medicine, tele-education, navigation, weather forecasting, disaster warning, search and rescue operations, earth observations, natural

  
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Chikkasandra, Hosaraghatta Road,  
Bangalore-560 067




resource management, scientific and space science etc. The speaker belongs to the ISAC testing group and briefed about their project.

With the objective of taking the benefits of space technology to the length & breadth of the society, ISAC is actively involved in creating cost-effective space infrastructure for the country. He also added that the centre is presently engaged in the challenging task of building future generation advanced communication, remote sensing, navigation and space science satellites. Satellite systems are used for the economic development of our nation as per the vision of Dr Vikram A Sarabhai, founder of Indian Space Programme. The session came to an end with the vote of thanks by Prof. Vani V and The HOD Prof. Sandhya Rani MH presented memento to the guests.



*Students and faculties attending sessions of Mr. Tosicul Wara*

  
Guest Lecture/FDP/Workshop Co ordinator

Prof. Vani V & Prof. Vani A

  
HOD ECE

Prof. Sandhya Rani MH

15/05/2017

  
Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hosaraghatta Road,  
Bangalore-560 057



## WORKSHOP REPORT ON

### “Advanced IOT program using Texas Instrument MSP 430”

Date: 21.04.2018 to 22.04.2018

Objective of the workshop:

The objective of this workshop is to provide an opportunity for students to get aware of Advanced IOT programs and usage of Texas Instrument MSP 430 Microprocessor thereby developing a stepping stone towards the development of an Embedded System.

Venue: Microprocessor and CCN Lab, Faraday block, SCE

Coordinated by: Prof. Vani V and Prof. Vani A

In Association with: Telos Technologies, Bengaluru.

Number of Participants: 43

Inauguration and welcoming the speaker Mr. Sagar and Vivek, Application Engineers, Telos Technology, Bangalore by Prof. Sandhya Rani MH, HOD Dept of ECE, SCE , Bangalore.



*Prof. Sandhya Rani MH, HOD ECE, SCE. welcoming the speaker Mr. Sagar. Telos Technologies, Bangalore.*

  
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Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057

## Summary of Workshop:

### Day1:

#### Session 1:

##### 1. Introduction to IOT

- Application of Internet of things
- Building blocks of IOT that is sensors and actuators, connectivity, peoples and processes.
- Introduced IOT product from TI
- TI solution for IOT
- Encounters in the Internet of Things

##### 2. Introduction to MSP430 Processor

- Architecture of MSP430 F5529LP
- Features of MSP430
- Comparison of MSP430 with other controllers

##### 3. Practical Session

- Introduction to Energia software
- Introduction to CCSV6.1 Code Composer studio V6.1

#### Session 2:

##### 1. Hands on session on MSP430 F5529LP using Energia software

- How to write program in Energia
- How to interface external LED with MSP430
- How to control LED using switches
- Interfacing Potentiometer with MSP430
- To control the speed of DC Motor using potentiometer

##### 2.Using CCSV6.1 software

- To blink an LED
- To control LED using switch

### Day 2:

#### Session 3:

##### 1. Handson session on IOT using Energia

##### Introduction to CC3100 wifi booster pack

##### Configuring CC3100 as a web server and controlling on board peripherals using smart phone

- To control the peripherals of the board anywhere over the internet, using https protocols to send and receive data from web browser
- Enter ssid and password in code and connect the device to internet, upload the code to CC3100
- Open the web Browser and enter IP address which is displayed in serial monitor
- Control LEDs using webpage.



## 2. To create a chat server

- A simple server that distributes any incoming message to all the connected clients by using simple telnet client application and entering the IP address and type message.
- We can see the client input in serial monitor

### Session 4:

#### 1. Using Pubnub for sending sensor data to cloud

- Creating account in cloud service using Pubnut console, note the publisher and subscriber keys and enter them in code.
- To microcontroller interface Grove Base Booster pack of seed studio and potentiometer and wifi module
- Upload the code
- Connect Wifi then automatically connected to pubnub server and we publish message or data
- At cloud side in Pubnub console sensor values are received

#### 2. To visualize sensor data

- Using Freeboard.io to visualize the IOT, which provides a cloud side dash board.
- Create our own dash board by giving data source: here use Pubnub and publisher and subscriber key and thus, Freeboard receives the payload from data source and represented in the format selected Ex: Sparkline, guage, graph etc.
- Explained to creat a wifi connected IOT sensor that calls when sensor values exceed threshold level using temboo.com and nexmo.com



*Lab sessions during the workshop.*

  
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Bangalore-560 057





*Students and faculties participating in the workshop.*

*Prof. Vani V & Prof. Vani A*

*FDP/Workshop/Seminar Coordinators*

*Prof. Sandhya Rani M H* 24/04/24

*(HOD ECE)*

*Principal*  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057





Prashanth CM &lt;hodcse@sapthagiri.edu.in&gt;

## Invitation to visit Infosys Limited - Sapthagiri College of Engineering <<16-May-2017>>

1 message

CC\_Admin &lt;CC\_Admin@infosys.com&gt;

Mon, May 8, 2017 at 4:37 PM

To: "ancythomas@sapthagiri.edu.in" &lt;ancythomas@sapthagiri.edu.in&gt;

Cc: Anoop Singh &lt;ANOOPI\_SINGH@infosys.com&gt;, Sahana Kumaraswamy &lt;Sahana\_Kumaraswamy@infosys.com&gt;, "hodcse@sapthagiri.edu.in" &lt;hodcse@sapthagiri.edu.in&gt;

Dear Professor,

On behalf of Infosys, I would like to extend my greetings and confirm the participation of your institution for an briefing session on FP 5.0

at Infosys Limited, Bangalore Campus, the industry-academia program, scheduled on **16<sup>th</sup> May'17 for 145 students along with 5 faculties**. Please find attached the template to nominate the students and faculties.

It is my pleasure to be your Host and Program Anchor for the day. I am sure, through this program, we can help students to identify their concealed talent and stimulate their promising ability to outshine. Interaction with Senior Employees will render the students to interpret current IT trends.

Trust in us, we are sure to raise the aspirations of your students to a new high through this industry-academia interaction.

Program Details:

Date: 16-May-2017

Time: 09:30 AM to 03:00 PM

Report Venue: Gate #4, Infosys Limited, Electronic City, Hosur Road, Bangalore

Program Venue: Audi 4, Building 12.

You are requested to be present at the venue on time.

Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hasaraghatta Road,  
Bangalore-560 057

# Sapthagiri College of Engineering

## Report on Industrial visit to M/s Infosys Limited, Bangalore

As per the invitation to visit Infosys Limited, 101 students (32 Boys and 69 girls) and 5 faculty members from both CS&E and IS&E branches were selected and 2 buses were arranged to visit the company on 26<sup>th</sup> April 2016.

The buses reached the Infosys campus at 8:00 am. After security verification process, students were taken to food court for breakfast. Later they were taken to Auditorium 1 (Cauvery) for the industry-academia program.

There was two sessions in the program. First session was taken by Mr. Anoop Singh, Principal, Infosys Campus Connect Program, Infosys Limited. In this session, Objectives of the program, 3rd eye view on working of IT industry, Infosys products, Infosys training, Career growth options, course materials for preparing for interviews and placements were discussed.

Quiz on RDBMS was conducted for students grouping them into two teams. This helped students to understand the importance of subject basics.

Second session was taken up by Ms. Sahana Kumarswamy, Senior Member, Infosys Limited. In this session "Programming in Python" was discussed. Basics of Python language with examples was thought to the participants and demonstrated the same using Liclipse IDE. Also informed the students to register to the Infosys campus connect portal to get all the artifacts related to Python language to gain knowledge in depth. Students were taken to campus tour after the lunch.

This program helped the student to identify their concealed talent and stimulate their ability to outshine. Interaction with senior employees rendered the students to interpret current IT trends.

The coordinator appreciated the faculty members and students for their disciplined behavior inside the campus. Also they expressed that they are happy to invite such students again to their campus for such industry-academia program.

\*\*\*\*\*





## Department of Computer Science & Engineering

Academic Year: Even /2017- 2018

Ref. No: SCE/CSE/65

Date: 20/01/2018

To,

The PRINCIPAL  
Sapthagiri College of Engineering  
Bangalore - 560057.

From,

Coordinator,  
Infosys Campus Connect Program,  
Sapthagiri College of Engineering  
Bangalore - 560057.

*Permitted by*  
*[Signature]*

Through,

HOD  
Computer Science & Engineering  
Sapthagiri College of Engineering  
Bangalore - 560057.

Respected Sir,

Subject: Infosys Campus Connect Regd.

With respect to the above subject, Infosys invited Dept. of CS&E faculties for Industry-Academia program scheduled on 24/01/2018 from 9:30 AM to 1:30 PM at Infosys Limited, Bangalore Campus followed by Guhantara Resorts.

Hence hereby seeking your permission to visit Infosys Campus also request to provide transportation for the same.

Thanking You,

Enclose: Infosys Invitation, Faculty List

Coordinator

Infosys Campus Connect Program  
Dept. of CSE

1] *[Signature]*  
2] *[Signature]*

Dr. Yogish H K

HOD-CSE

*[Signature]*  
Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057

# SAPTHAGIRI COLLEGE OF ENGINEERING

(Affiliated to Visvesvaraya Technological University, Belagavi & Approved by AICTE, New Delhi.)

















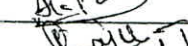

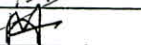
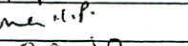






#14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru- 560 057

Web: [www.sapthagiri.edu.in](http://www.sapthagiri.edu.in). Email: [hodcse@sapthagiri.edu.in](mailto:hodcse@sapthagiri.edu.in)

## Department of Computer Science & Engineering

Academic Year: Even/2017- 2018

### LIST OF FACULTIES

Sl No.	Names	Signature
1	Dr. Yogish.H.K	
2	Prof. Kamalakshi Naganna	
3	Prof. Chaithra	
4	Prof. Latha A	
5	Prof. Poornima G.J	
6	Prof. Madhu Shree	
7	Prof. Veena K.R	
8	Prof. Anuradha Badage	
9	Prof. Kavitha G	
10	Prof. Shruthi N	
11	Prof. Suriya Prakash J	
12	Prof. Kavya N.L	
13	Prof. Abishek K L	
14	Prof. Nanda.M.B	
15	Prof. Shilpa M	
16	Prof. Srikanth M S	
17	Prof. Arun Kumar S	
18	Prof. Ramanagouda S Patil	
19	Prof. Ashok K Patil	
20	Raju T	
21	Mamatha T K	
22	Mangalamma	
23	Uma Pavate	
24	Shreedevi P	
25	Prem Kumar B M	
26.	Mamatha A	

  
Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057



## Invitation to visit Infosys Limited - Sapthagiri College of Engineering <<24-Jan-2018>>

2 messages

CampusConnect infy <campusconnectinfy@gmail.com>  
To: hodcse@sapthagiri.edu.in

Wed, Jan 3, 2018 at 7:50 AM

### Infosys | Campus Connect

Dear Professor,

On behalf of Infosys, I would like to extend my greetings and confirm the participation of your institution for an briefing session on FP 5.0

at Infosys Limited, Bangalore Campus, the industry-academia program, scheduled on 24<sup>th</sup> Jan 2018 .

It is my pleasure to be your Host and Program Anchor for the day. I am sure, through this program, we can help faculties to identify their concealed talent and stimulate their promising ability to outshine. Interaction with Senior Employees will render the students to interpret current IT trends.

Trust in us, we are sure to raise the aspirations of your students to a new high through this industry-academia interaction.

#### Program Details:

Date: 24-Jan-2018

Time: 09:30 AM to 03:00 PM

Report Venue: Gate #4, Infosys Limited, Electronic City, Hosur Road, Bangalore

Program Venue: Audi 4, Building 12.

You are requested to be present at the venue on time.

We request participants to adhere to the following terms and conditions for the duration of the event:

1. Participants shall make their own travel arrangements for the industrial visit.
2. Participants are expected to maintain decorum, and follow all applicable rules and regulations at Infosys, while inside the campus. Participants shall be deemed liable for causing any loss or damages to Infosys property.

participation in an industrial visit is not an endorsement by Infosys or either the participant or the participant's institution

4. Neither the participant nor the participant's college shall get any additional remuneration or any special preference with respect to recruitment into Infosys, by virtue of participation in this program
5. Infosys shall have no liability arising out of conducting the program or the participant's participation in the same
6. Participants without college ID cards will not be permitted to attend the program
7. Use of any kind of digital media inside the auditoriums and office buildings is strictly prohibited.
8. The participating college is requested to consider the wellbeing of the group congregating, and avoid including ailing students in the program.

You can reach out to me for any further queries on +91-9886641940 or drop me a mail [InfyCC\\_Admin@infosys.com](mailto:InfyCC_Admin@infosys.com).

Look forward to see you at Infosys Campus!!

*anks and Regards,*

Prajwal Kumar

9886641971

**Infosys® | Campus Connect**

PS :

- Infosys does not charge for any industrial visit nor does it authorize any person / institution to collect money / materials for this program.
- You are requested to carry a copy of this E-mail for Security vérification





## Department of Computer Science & Engineering

Academic Year: Even /2017- 2018

Date: 31/01/2108

### Report on Faculty Industrial Visit to M/s – Infosys Limited, Bangalore


As per the invitation to visit Infosys Limited mail dated 24/01/2018 from Campus Connect Infy, 25 Faculties/staff from CS&E and 1 bus is arranged to visit the campus on 24<sup>th</sup> January 2018. The bus reached the Infosys campus at 9.00 A.M. After security verification process we were taken to food court for breakfast. Later they took to Auditorium 1 for the industry-academia program. We took almost a half a day to see the complete campus of Infosys.

The program helped the faculties to identify their concealed talent and stimulate their ability to outshine. Interaction with senior employees rendered the students to interpret current IT trends. We appreciate staff member who guided us for visit of campus.

Then at 1.30 pm we left the Infosys campus and entered the Guhanthra resort at 2.30 pm for lunch. Finally we left the resort by 5.30 pm.

We would like to extend our gratitude to our Management, Principal and HOD for permission and support they gave to make our visit a success. Faculty members attended.

Sl No.	Names
1	Dr. Yogish.H.K
2	Prof. Kamalakshi Naganna
3	Prof. Chaithra
4	Prof. Latha A
5	Prof. Poornima G.J
6	Prof. Madhu Shree
7	Prof. Veena K.R
8	Prof. Kavitha G
9	Prof. Shruthi N
10	Prof. Suriya Prakash J
11	Prof. Kavya N.L
12	Prof. Abishek K L
13	Prof. Nanda.M.B
14	Prof. Shilpa M
15	Prof. Srikanth M S
16	Prof. Arun Kumar S
17	Prof. Ramanagouda S Patil
18	Prof. Ashok K Patil
19	Raju T
20	Mamatha T K
21	Mangala Gowri
22	Uma Pavate
23	Shreedevi P
24	Prem Kumar B M
25	Mamatha A

  
 1] Alex  
 Ashok K Patil  
 2] S. Suriya Prakash  
 S. SURIYA PRAKASH  
 31/01/2018

# Understanding ransomwares and analysing their prevention mechanisms

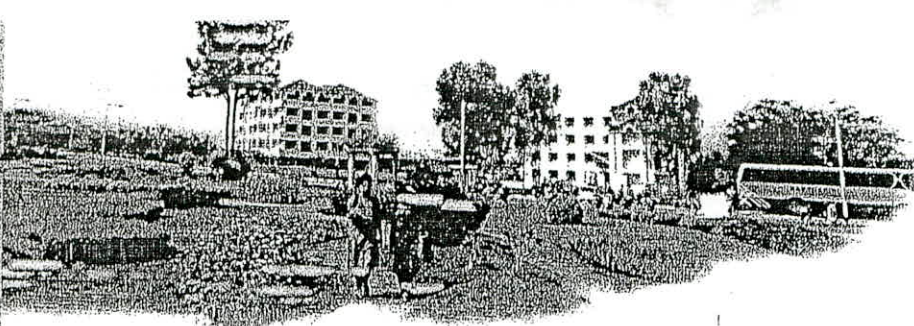
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in concern. According to the 2013 Microsoft Computing Safety Index, released in 2014, the annual worldwide impact of phishing could be as high as US\$5 billion.

6. **Botnets:** Botnets refer to a collection of internet-connected devices that consist of PCs, mobile devices, servers, laptops, devices that belong to internet of things. These devices are infected and controlled by a master program- malware. These devices are used for specific functions, such that the malicious operations are hidden from the user. Botnets are frequently used in sending email spams, or distributed denial of service attacks.
7. **Ransomwares:** This is a type of malicious software that threatens to publish the user's data or purposefully block access to his data, unless some ransom ( random amount of money) is paid. This malware is inserted to the host, when activated fetches the key, either by communicating with a C&C server, or finding the hardcoded key and then encrypts the user data with the key. Once the encryption is complete, it leaves a message to the user that the data is encrypted, he needs to pay some ransom amount to the malware writer to get the key to decrypt the files. Once the payment is done, the user gets the key, using which he can decrypt and get his files.







Date: 19-04-2018

To,  
The Director,  
ISRO Satellite Center (ISAC)  
38, Doddanekundi Main Road  
Phase 3, Doddanekundi,  
Bengaluru - 560037  
Karnataka.

From,  
HOD  
Computer Science and Engineering,  
Sapthagiri College of Engineering,  
Bengaluru - 560057  
Karnataka.

Respected Sir,

Sub: Requesting permission for an industrial visit at your ISRO Center.

This is a request letter for seeking your kind permission for an industrial visit to ISRO Satellite Centre (ISAC). We the faculties and Students are expected to visit prominent industries and companies for an exposure to the latest trends. Consequently, the Second/ Third year students of Department of Computer Science & Engineering of our college, desire to visit the ISRO Centre for a day.

At this juncture, it is a pleasure for me to introduce to you, our Sapthagiri College of Engineering, Bengaluru, Karnataka - affiliated to VTU University, is one of the most reputed Engineering College and known for its excellent record in academics and co-curricular activities.

We would be immensely grateful to you if you could please allow us to visit the ISRO Satellite Centre. Please sanction our request and inform us as soon as possible.

Thank you.

Yours faithfully



Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057

Dr. YOGISH H. K.  
Professor & Head  
Department of Computer Science & Engineering  
Sapthagiri College of Engineering

14/5, Chikkasandra, Hesaraghatta Main Road, Bangalore - 560 057, KARNATAKA  
Tel : 080-28372801/02/03, 23130583 Fax : 080 - 28372797  
email : admin@sapthagiri.org Website: www.sapthagiri.org

## Department of Computer Science & Engineering

Academic Year: Even /2017- 2018

Ref: SCE/CSE/79

Date: 02/05/2018

To,

The PRINCIPAL,  
Sapthagiri College of Engineering,  
Bangalore - 560057.

From,

Ramanagouda S Patil & Arun Kumar S,  
Assistant Professor's,  
Dept. of Computer Science & Engineering,  
Sapthagiri College of Engineering,  
Bangalore - 560057.

Through,

HOD,  
Computer Science & Engineering,  
Sapthagiri College of Engineering,  
Bangalore - 560057.

Respected Sir,

**SUBJECT: Regarding Industrial Visit to ISRO Satellite Centre-Bangalore.**


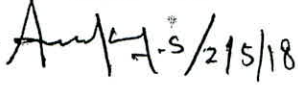
With respect to above mentioned subject, Totally 80 Students of 6<sup>th</sup> Semester from Department of Computer Science and Engineering along with 2 Faculty members are going to visit ISRO Satellite Centre on 07/05/2018 (Monday). So kindly we request you to provide transport for the students to visit ISRO Satellite centre.

Kindly consider and do the needful.

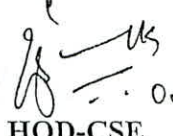
Note: Approval Letter by ISRO is attached.


Thanking you Sir,

Coordinator's

1. Ramanagouda S Patil - 
2. Arun Kumar S - 

  
Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057

  
02/05/18  
HOD-CSE

✓ Provide bus Sapthagiri - ISRO - Sapthagiri  
on 7/2/18 at 8.30 am 



U R RAO SATELLITE CENTRE  
BANGALORE

Rajendra Hulyal  
Group Head  
Programme, Planning & Evaluation Group

080-2508 2126  
Fax No: 080 - 2520 5261

1 May 2018

To,  
HOD,  
Computer Science and Engineering,  
Sapthagiri College of Engineering,  
Bengaluru- 560057  
Karnataka.

Sir / Madam,

SUB: Permission to visit ISRO Satellite Centre - Reg.

We are in receipt of your post / email letter dated 01.04.2018 requesting permission to visit on the following date.

07.05.2018	10.00hrs to 12.00 Hrs
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Please provide details of team members and faculty members along with an authorization letter from the Instructor to the Leader of the team (co-ordinator) restricted to 80 members only. subject to the following conditions.

The team may report to Reception Counter of this Centre 15 minutes in advance in order to complete the administrative formalities for issuing entry passes.

1. You are requested to strictly adhere to the time schedule mentioned above.
2. In case of any exigencies, we may cancel the above visit without any intimation.
3. Carrying Camera and taking photography inside this Centre is strictly prohibited.
4. Mobile phones and electronic gadgets are not allowed to be taken inside.
5. The visitors should declare items to be carried if any and seek permission, while entering this Center to the security personnel for checking.
6. No foreign nationals are allowed.
7. No Family members will be allowed inside this centre.
8. After the visit Acknowledgement letter will not be issued from the organization.

Please note that our office is located on Old HAL Airport Road, Bangalore-560 017 next to National Aerospace Laboratories (NAL). Our telephones Nos. are 080, 25084469 & 25084470.

The Professor accompanying the Students may kindly contact the Reception Counter of this Centre to complete the administrative formalities and for issue of Entry pass in time. Kindly acknowledge the receipt of this letter.

Yours faithfully,

Sd/-  
(Rajendra Hulyal)

Entry to the students and faculty for visit is "FREE" and ISAC facilities such visits for promotion of scientific temper & Familiarization of Satellite programmes.

Note please see route map is attached

  
Principal  
Sapthagiri College of Engineering  
Chikkasandra, Hesaraghatta Road,  
Bangalore-560 057