SAPTHAGIRI COLLEGE OF ENGINEERING

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STUDENT CENTRIC METHODS

ACADEMIC YEAR 2018-19

SAPTHAGIRI COLLEGE OF ENGINEERING, BENGALURU-560057

Affiliated to VTU, Belagavi & Approved by AICTE, New Delhi

KSCST APPROVED PROJECT LIST- 2018-19

SL No	Years	Department	Best Projects		Ref No
1	2018-19	ME	1.EVALUATION OF BIOFUEL BLENDED WITH PREPARED ETHANOL, N-BUTANOL AND PETROL BASED ON PERFORMANCE AND POLLUCTION LEVEL TESTS ON AN SI ENGINE	http://www.kscst.iisc.ernet.in/spp/42_series/SPP_42S_Biofuel_Compendium.pdf	42S_B_BE_123
2		BT	BIOPLASTIC EXTRACTION FROM WASTE GREASE PRODUCED IN INDUSTRIES USING AS GLYCEROL AS A SUBSTRATE	http://www.kscst.iisc.ernet.in/spp/42_series/SPP_42S_Biofuel_Compendium.pdf	42S_B_BE_003
3		ECE	DEVELOPMENT OF ENERGY MANAGMENT SYSTEM (EMS) FOR SOLAR PHOTOVOLTAIC POWER PLANTS TO SUPPLY POWER FOR COTTAGE INDUSTRIES WITHOUR USING BATTERY BANK	http://www.kscst.iisc.ernet.in/spp/42_series/42S_SPP_Approved_List_StreamB.pdf	42S_BE_1473
4		ECE	AGROBOT	http://www.kscst.iisc.ernet.in/spp/42_series/42S_SPP_Approved_List_StreamC.pdf	42S_BE_0279
5		ME	DESIGN AND FABRICATION OF ARTICULATED 3D	http://www.kscst.iisc.ernet.in/spp/42_	42S_BE_1589

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			PRINTER	series/42S_SPP_Approved_List_StreamC.pdf	
6		ME	POWER GENERATION BY ENGINE EXHAUST GAS FOR AIR BRAKE SYSTEM	http://www.kscst.iisc.ernet.in/spp/42_series/42S_SPP_Approved_List_StreamC.pdf	42S_BE_2339
7		BT	ANTI-KRAIT VENOM ACTIVITY OF FOLK MEDICINAL PLANTS	http://www.kscst.iisc.ernet.in/spp/42_series/42S_SPP_Approved_List_StreamC.pdf	42S_BE_3333

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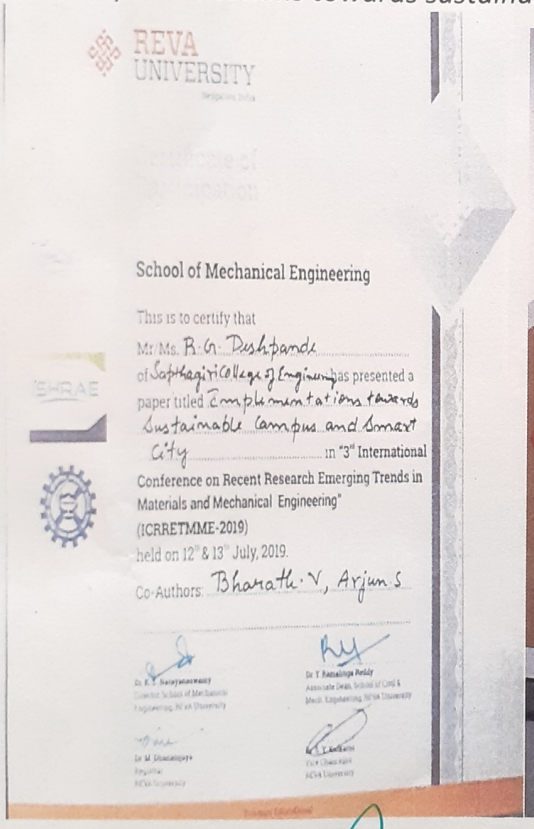
DEPARTMENT OF MECHANICAL ENGINEERING

2018-19 EVEN SEM

Final year students presented a paper along with Dr.R.G.Deshpande at Reva University conference ICRRETMME-2019 held on 12-13th July 2019.
Student names: Bharath.V, Arjun.S.
Title: *Implementations towards sustainable campus and smart city.*



REVA UNIVERSITY

School of Mechanical Engineering

This is to certify that
Mr/Ms. R.G. Deshpande
of Sapthagiri College of Engineering has presented a paper titled Implementations towards Sustainable Campus and Smart City in "3rd International Conference on Recent Research Emerging Trends in Materials and Mechanical Engineering" (ICRRETMME-2019) held on 12th & 13th July, 2019.
Co-Authors: Bharath.V, Arjun.S

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HOD
Professor & Head
Department of Mechanical Engineering
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Home → Latest News

Sapthagiri College of Engineering faculty and students develop digital clock based on GPS signals

Published on Fri, Aug 2 2019 17:30 IST | 320 Views

Bengaluru: Students and faculty of the Sapthagiri College of Engineering show a digital clock based on GPS signals developed by them that displays time like traditional clocks, at a press conference in Bengaluru on Aug 2, 2019.

Principal
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THE NEW INDIAN EXPRESS

Bengaluru students invent device to ease ambulances through heavy traffic

Students have created a light sensor of sorts that will detect the light pulse sequence of the ambulance. With this, traffic police can manually operate signals and let ambulances pass.

Published: 27th June 2019 06:42 AM | Last Updated: 27th June 2019 12:44 PM | A+ A A-

Students from Sapthagiri College of Engineering presending a censor-based traffic signal, in Bengaluru on Wednesday | SHRIRAM B N

By Express News Service

BENGALURU: To tackle one of the recurring problems in the city - heavy traffic disrupting emergency health services - a group of students have come together to find a solution. They are now patenting their 'Traffic Control System', which will be an innovative solution for traffic police who struggle to make way for ambulances stuck behind rows of vehicles at signals.

Students of Saptagiri College of Engineering, under the guidance of their professors Dr Dinesh K Anvekar and Dr Sasmita Mohapatra, created a light sensor of sorts that will detect the light pulse sequence of the ambulance. With this, traffic police can manually operate signals and let ambulances pass.

The team of students includes fourth-semester Electronics and Communication Engineering students Nitin B S, B K Harshit, Prathika V M and Dhanush Bharadwaj H P.

"The electronics and communication functions of the system are implemented by two micro-controller boards in the traffic light unit and one micro-controller within the torch," said the students. The traffic lights control system consists of a light code sequence detector mounted above the red traffic light, and a light pulse sequence emitting torch. The light pulse sequence is detected by a light sensor interfaced to a micro-controller. The torch has a micro-controller that produces a pre-determined sequence of light pulses," the group said.

Since the light sensor is placed against a 'conspicuous black-yellow pattern' board, it will aid the ambulance driver in heavy traffic. "The light code sequence detector recognises light sequences and signals the traffic light control circuit to switch immediately to green and allow the ambulance to pass," they added. The invention has been filed for patent issue by the Indian Patents Office, they added.

TAGS Traffic control system Saptagiri Engineering College students city ambulance service ambulance servie in Bengaluru traffic police

Sapthagiri College of Engineering

SAPTHAGIRI College of Engineering Creating Tomorrow

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ಸೋಮವಾರ, 5 ಆಗಸ್ಟ್ 2019

Students create digital clock with LED hands

Times News Network

Bengaluru: One glance at this clock will tell you that times have changed! Students and faculty of Sapthagiri College of Engineering have developed an accurate digital clock that gathers time from GPS signals and displays it like a traditional analog clock.

The three-foot-tall clock receives GPS signals from three satellites using a compact antenna and extracts the time value as GMT. It is then converted to IST by adding the lead time value and the time is shown through three hands of the clock.

However, the clock has no moving hands or parts and the [i]mpression of movement of [ha]nds is created by switching [li]ght emitting diode (LED) strings. The clock thus has 1,400 different points to make connections, 2,000 soldering points, 180 Darlington pair transistors, 80 strips of LED and one micro-controller board. "The challenge was to make these LED strips and the connections. One wrong connection could spoil the whole clock," said Nandini S, a student.

CHANGING CHIMES: The clock display creates the impression of needles using LED strings

The clock needs uninterrupted power supply that [can] come through the solar pa[nel] attached to it. "The advant[age] is that it needs no maintena[nce] as it doesn't have moving p[arts] and batteries. LED has a li[fe of] 10-20 years. Also, the time [once] set needn't be reset again, a[nd] is accurate. The clock can p[rove] useful at railway or bus stat[ions] or places like a clock tower [whe]re everyday maintenance i[s dif]ficult," said Dinesh K Anve[kar,] faculty at the college.

The clock cost Rs 10,0[00 to] make, but it can come dow[n to] Rs 4,000 for a one-foot-tall [ver]sion. The team of students [who] developed it are: Nandi[ni S,] Anusha SV, Bhumika KS, [Divy]ashree RA, Divij N and Div[ya ...] under the guidance of Di[nesh] K, Prakash Jadhav and S[ur]eshkumar HC.

ಸೋಮವಾರ, 5 ಆಗಸ್ಟ್ 2019

ಉಪಗ್ರಹ ಜಿಪಿಎಸ್ ಆಧಾರಿತ ಡಿಜಿಟಲ್ ಗಡಿಯಾರದೊಂದಿಗೆ ವಿದ್ಯಾರ್ಥಿಗಳು ಮತ್ತು ಬೋಧಕ ಸಿಬ್ಬಂದಿ

ಜಿಪಿಎಸ್ ಆಧಾರಿತ ಡಿಜಿಟಲ್ ಗಡಿಯಾರ

ಜಿಪಿಎಸ್ ಸಂಕೇತಗಳನ್ನು ಆಧರಿಸಿದ ಡಿಜಿಟಲ್ ಗಡಿಯಾರವನ್ನು ಸಪ್ತಗಿರಿ ಇಂಜಿನಿಯರಿಂಗ್ ಕಾಲೇಜಿನ ವಿದ್ಯಾರ್ಥಿಗಳು ಮತ್ತು ಬೋಧಕ ವರ್ಗ ಅಭಿವೃದ್ಧಿಪಡಿಸಿದೆ.

ಈ ಗಡಿಯಾರದ ವೈಶಿಷ್ಟ್ಯತೆ ಎಂದರೆ ಉಪಗ್ರಹದ ಜಿಪಿಎಸ್ ಮೂಲಕ ಸಮಯದ ಸಂಕೇತ ಪಡೆಯಲಿದೆ. ಡಿಜಿಟಲ್ ತಾಂತ್ರಿಕ ವ್ಯವಸ್ಥೆ [illegible] ಸಿದ್ಧಪಡಿಸಲಾಗಿದ್ದು, ನಿಖರ ಸಮಯ [illegible]ರಿಸುತ್ತದೆ.

ಎಲ್.ಇ.ಡಿ ತಂತ್ರಜ್ಞಾನದ ಬೆಳಕಿನ ಮೂಲಕ ನಿಖರ ಸಮಯ ತೋರಿಸುವ ಗಡಿಯಾರದ ಮುಳ್ಳುಗಳು ಇತರೆ ಸಾಮಾನ್ಯ ಗಡಿಯಾರಗಳಂತೆ ಚಲಿಸುವುದಿಲ್ಲ. ವಿಶೇಷವೆಂದರೆ ಸಮಯ ಸರಿಪಡಿಸುವ ಪ್ರಮೇಯವೇ ಇಲ್ಲಿ ಉದ್ಭವಿಸುವುದಿಲ್ಲ. ಗಡಿಯಾರದ ಸ್ವಿಚ್ ಒತ್ತಿದರೆ ಕಾಂಪೆಕ್ಟ್ ಆಂಟೇನಾದಿಂದ ಕನಿಷ್ಠ ಮೂರು ಉಪಗ್ರಹಗಳಿಂದ ಜಿಪಿಎಸ್ ಸಂಕೇತ ಸ್ವೀಕರಿಸುತ್ತದೆ. ಆಗ ಸ್ವಯಂ ಚಾಲಿತವಾಗಿ ಜಿಎಂಟಿ ಅಂದರೆ ಗ್ರೀನ್‌ವಿಚ್ ಸರಾಸರಿ ಕಾಲಮಾನ ಸೂಚಿಸುತ್ತದೆ.

ಗ್ರೀನ್‌ವಿಚ್ ಎಂದರೆ ಲಂಡನ್‌ನಲ್ಲಿರುವ ರಾಯಲ್ ವೀಕ್ಷಣಾಲಯದಲ್ಲಿ ಸರಾಸರಿ ಸೌರ ಕಾಲವನ್ನು ಉಲ್ಲೇಖಿಸಲು ಬಳಸಲಾಗುತ್ತದೆ. ಜಿಎಂಟಿ ಆಧಾರದ ಮೇಲೆ ಭಾರತೀಯ ಕಾಲಮಾನ ಐಎಸ್‌ಟಿ ತೋರಿಸುತ್ತದೆ. ಮೂಲಕ ಜಿಪಿಎಸ್ ಬೋರ್ಡ್‌ಗೆ ಉಪಗ್ರಹ ಸಂಕೇತಗಳು ದೊರೆಯಲಿದ್ದು, ಬಳಿಕ ಗಡಿಯಾರ ಇಷ್ಟು ಗಂಟೆಯಾಗಿದೆ ಎಂದು ಸ್ಪಷ್ಟವಾಗಿ ಧ್ವನಿ ಹೊಮ್ಮುವುದು ಇದರ ಮತ್ತೊಂದು ವಿಶೇಷ. ಗಡಿಯಾರವನ್ನು ಎಲ್ಲಿಗೆ ಬೇಕಾದರೂ ಕೊಂಡೊಯ್ಯಬಹುದಾಗಿದ್ದು, ನಿರ್ವಹಣೆ ದುಬಾರಿ ಅಲ್ಲವೇ ಅಲ್ಲ.

ಗಡಿಯಾರದಲ್ಲಿ ಸಮಯ ಸೂಚಿಸಲು ಬಳಸಿರುವ ಮುಳ್ಳುಗಳಿಗೆ ಎಲ್‌ಇಡಿ ತಂತ್ರಜ್ಞಾನದ ಮೂಲಕ ಕೆಂಪು, ನೀಲಿ ಮತ್ತು ಹಸಿರು ದೀಪ ಅಳವಡಿಸಲಾಗಿದೆ. ಎಲ್ಲಾ ದೀಪ ಪ್ರಕಾಶಮಾನವಾಗಿದ್ದರೆ ಸಮಯ ಸೂಚಿಸುವ ಗಡಿಯಾರದ ಕೈಗಳು ಹಗಲು ಹೊತ್ತಿನಲ್ಲೂ ಸ್ಪಷ್ಟವಾಗಿ ಕಾಣುತ್ತವೆ. ಜತೆಗೆ ಗಡಿಯಾರದ ಗಾತ್ರವನ್ನು ಕಡಿಮೆ ಮಾಡಬಹುದಾಗಿದ್ದು, ಕನಿಷ್ಠ ಒಂದು ಅಡಿ ಗಡಿಯಾರ ತಯಾರಿಸಿ ಮನೆಗಳಲ್ಲೂ ಸಹ ಬಳಸಬಹುದಾಗಿದೆ. ಮನೆಗಳ ಗೋಡೆಗಳಿಗೂ ಡಿಜಿಟಲ್ ತಂತ್ರಜ್ಞಾನದ ಗಡಿಯಾರ ಆಕರ್ಷಣೀಯವಾಗಿರುತ್ತದೆ.

ಸಪ್ತಗಿರಿ ಕಾಲೇಜಿನ ಎಲೆಕ್ಟ್ರಾನಿಕ್ಸ್ ಮತ್ತು ಸಂಪರ್ಕ ವಿಭಾಗದ ಡಾ. ದಿನೇಶ್ ಅನ್ವೇಕರ್, ಅವರ ಮಾರ್ಗದರ್ಶನದಲ್ಲಿ ಎಲೆಕ್ಟ್ರಾನಿಕ್ಸ್ ಮತ್ತು ಕಮ್ಯೂನಿಕೇಷನ್ ವಿಭಾಗದ ವಿದ್ಯಾರ್ಥಿಗಳಾದ ನಂದಿನಿ ಎಸ್, ಅನುಷ ಎಸ್.ವಿ. ಭೂಮಿಕ ಕೆ.ಎಸ್., ದಿವ್ಯಶ್ರೀ ಆರ್.ಎ. ಮತ್ತು ಕಂಪ್ಯೂಟರ್ ಸೈನ್ಸ್ ವಿಭಾಗದ ದಿವಿಜ್ ಎನ್. ಮತ್ತು ದಿವ್ಯ ಕೆ. ವೆಂಕಟೇಶ್ವರ ತಂಡ ಪರೀಕ್ಷೆ ಮುಗಿದ ಬಳಿಕ ಮೂರು ವಾರಗಳ ರಜೆ ಸಂದರ್ಭದಲ್ಲಿ ಈ ಗಡಿಯಾರವನ್ನು ಆವಿಷ್ಕರಿಸಿದೆ.

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https://www.newindianexpress.com/cities/bengaluru/2019/aug/04/engineering-students-create-gps-enabled-clock-2013969.html

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Report on

"Importance of GATE Score"

To provide the knowledge of Importance of GATE Score for the students, department of Placement and Training has organized career guidance program-Importance of GATE score for final year students.

Mr Pramod, Trainer NAVIGEM, Bangalore was invited as resource person to conduct the program on 6 May 2019.

The students are informed to take GATE exam since the GATE score helps them to take admission to Master's degree in premium institutions like IITs and NITs. They are also informed how GATE score helps in taking jobs in PSUs.

Mr Pramod delivering talk on Importance of GATE score

Incharge

Principal

Principal
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CASE STUDY

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EXPERIMENTAL INVESTIGATION AND ANALYSIS OF CRITICAL SPEED OF SHAFT

[1]Rahul N Dixit, [2]Mithun Raghunandan, [3]Dr Tulsidas D

[1,2]Undergraduate Students, Department of Mechanical Engineering, Sapthagiri College of Engineering, Bangalore, India
[3]Associate Professor, Department of Mechanical Engineering, Sapthagiri College of Engineering, Bangalore, India

Abstract: One of the methods to determine natural frequency and the mode shapes of an object is by using modal analysis. In the present work, analysis of a 1m length shaft of diameter 6 mm is performed experimentally for two different boundary conditions and first two modes are extracted for fixed-free and free-free boundary condition. The critical frequency of the shaft is determined and the results are compared with theoretical results. The shaft is analyzed using ANSYS software with pre-determined boundary conditions and mode shapes are extracted. A Campbell diagram is plotted to determine the shafts response as a function of its oscillation.

Index Terms **- Natural frequency, Modal Analysis, Critical speed, Campbell diagram, ANSYS Workbench.**

I. INTRODUCTION

Rotating machinery such as compressors, turbines, pumps, jet engines, turbochargers, etc., are subject to vibrations. These vibrations are broadly classified as synchronous (due to unbalance) or nonsynchronous such as caused by self-excited rotor whirling. The three major areas of concern are rotor critical speeds, system stability and unbalance response. Critical speeds are the un-damped natural frequencies of the rotor system. As a first step in turbo rotor design, an analysis is performed to determine the system critical speeds, mode shapes and energy distribution.

The objective of this paper is to determine the critical speed of a shaft of 6mm diameter and study the mode shapes under different end conditions using fixed and flexible bearings. The modal analysis has been carried out additionally in ANSYS Workbench 15.0 and the critical speeds are determined for the different end conditions. The modal analysis was helpful in accurately visualizing the mode shapes and their corresponding natural frequencies. The experimental results are confirmed by theoretical calculations using Dunkerley's equation to calculate natural frequency and critical speed. The geometry modeling of the shaft was done using CATIA V5.

II. LITERATURE REVIEW

Thorough literature survey was done on the procedure to obtain critical speed of shaft, analyze the shaft using ANSYS and the past studies done.

Ankit J. Desai et al [1] measured the critical speed of shafts of various diameters and have also evaluated the self-excited motion based on the change of amplitude ratio with respect to frequency ratio.

Mr. Balasaheb Keshav Takle [2] has obtained the natural frequency of shafts of different diameters and has validated them experimentally and has also determined the critical speed of shaft theoretically.

Shelar Santosh Ashok et al [3] studied and obtained the critical speed of shafts of different lengths and diameters by using analysis method.

Dr. C. M. Ramesha et al [4] carried out modal analysis of a single cylinder engine crankshaft and the natural frequencies for two conditions were found and harmonic response of crankshaft was studied.

Do-Kwan Hong et al [5] analyzed rotor dynamics of a rotor with shrink fit by using 3D FEA method. The 3-D rotor dynamics analysis and Campbell diagram considering shrink fit are examined for the critical speed of rotor

III. OBJECTIVES

- Determine critical speed of shaft experimentally.
- Obtain mode shapes experimentally for different end conditions.
- Calculate the critical speed theoretically using Dunkerley's formula.
- Perform modal analysis using ANSYS Workbench 15.0 to determine critical speed.
- To plot rotating speed of shaft against natural frequency (Campbell Diagram).

IV. CRITICAL SPEED/ WHIRLING SPEED OF SHAFT

The critical speed of a rotating shaft is the speed at which the shaft starts to vibrate violently in the transverse direction. Critical speed is also called 'whipping' or 'whirling' speed. The main reason for the whirling speed is the mass unbalance of the shaft when the shaft centre does not coincide with the geometric centre.

When the shaft vibrates with maximum amplitude i.e. when the working frequency is equal to the natural frequency, we get the first mode shape and the corresponding speed is called the first critical speed. Fig.1 shows the 1st mode shape.

When the working frequency is equal to the second natural frequency, we get the second mode shape and the corresponding speed is called the second critical speed. Fig.2 shows the second mode shape.

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BT

FORENSIC MUSEUM REPORT

Dear Sir.

According to the planned Forensic Museum visit as per the permission from Principal Sir & HOD sir, successfully conducted the Forensic Museum visit for the 7th sem students for their academic curriculum

Please find the details of forensic museum visit on 15-10-2018, Thursday at 2.00 pm

Place: Sapthagiri Institute of Medical Science and Research Center, Bangalore

Mentor: Dr. Uday Shankar sir,

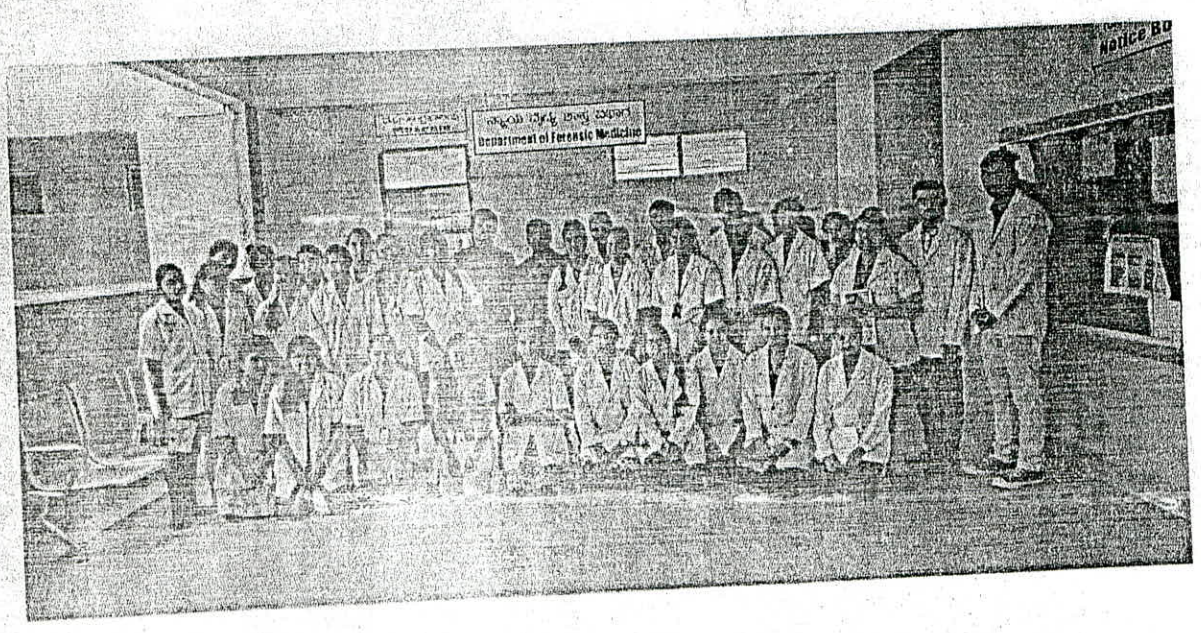
Museum Incharge: Dr. B C Shiovakumar Prof & HOD, Department of Forensic Medicine and Toxicology, SIMS &RC, Bangalore

Faculty in charge: Ananda H V, Assistant Professor, Department of Biotechnology

Number of participants: 34 students from 7th sem Biotechnology Department

Thanks for the permission and cooperation

From:
Department of Biotechnology
Sapthagiri College of Engineering
Bangalore



H V

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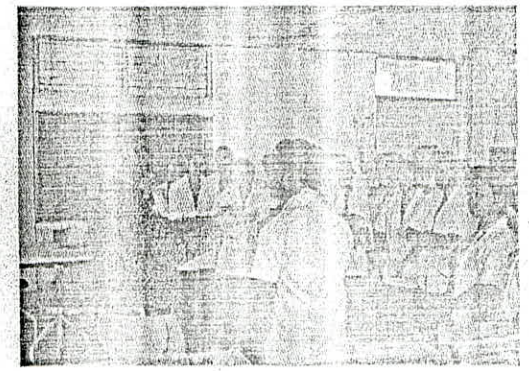
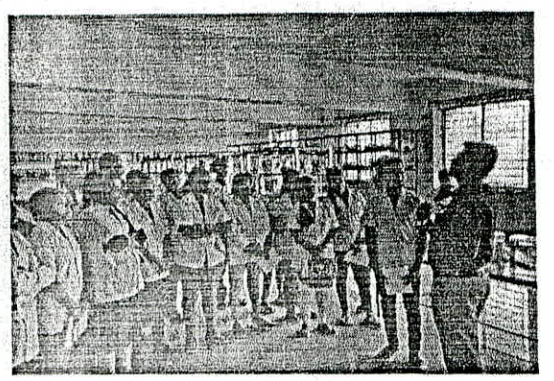
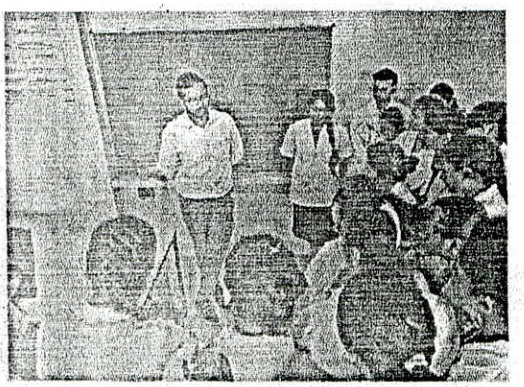
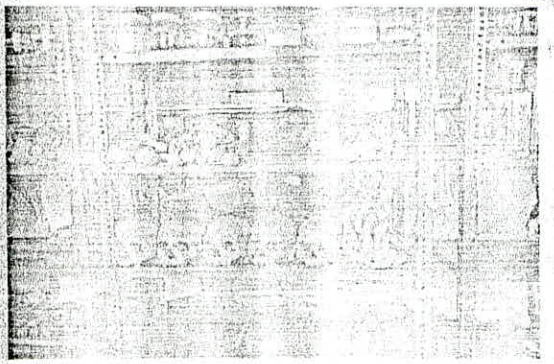




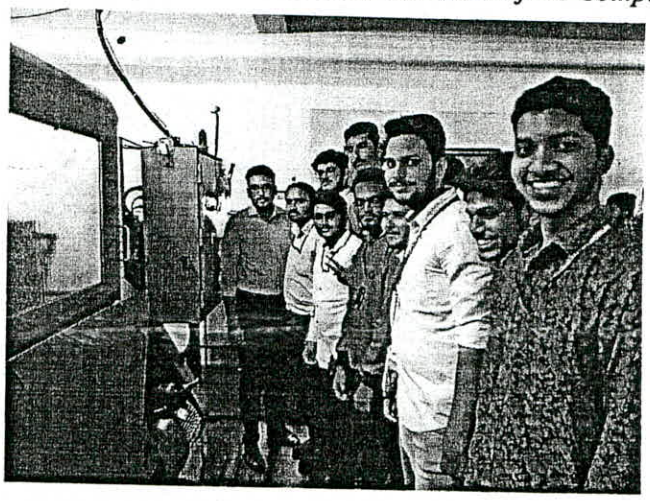




Principal
Sapthagiri College of Engineering
Chikkasandra, Hesaraghatta Road,
Bangalore-560 057

Head of the Department
Dept. of Bio-Technology
Sapthagiri College of Engineering
No. 57/1, Chikkasandra
Hesaraghatta Main Road
Bangalore-57

Faculty and Students at the Entrance of the Company



Students interacting with the experts at Company

Industrial visit (Faculty coordinators):

Mr. Anilkumar P R P.R.

Mr. Ram Kumar M

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Sapthagiri College of Engineering
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18 - 19

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DEPARTMENT OF MECHANICAL ENGINEERING

STUDENT CENTRIC ACTIVITY

Description

The crank lever used in milling or shaping machine is the machine element where it will be subjected to torsion and axial load is explained in detail in the class room for better understanding.

Subject: Design of Machine elements, 5A

Outcome:

Experienced Learning, Participative Learning, Models, Curiosity based learning.

HOD

Professor & Head
Department of Mechanical Engineering
Sapthagiri College of Engineering
Bengaluru - 560 057.

Principal
Sapthagiri College of Engineering
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Bangalore-560 057

PEER TEACHING

18 - 19

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DEPARTMENT OF MECHANICAL ENGINEERING

SAPTHAGIRI COLLEGE OF ENGINEERING

BANGALORE_560057

STUDENT CENTRIC ACTIVITY

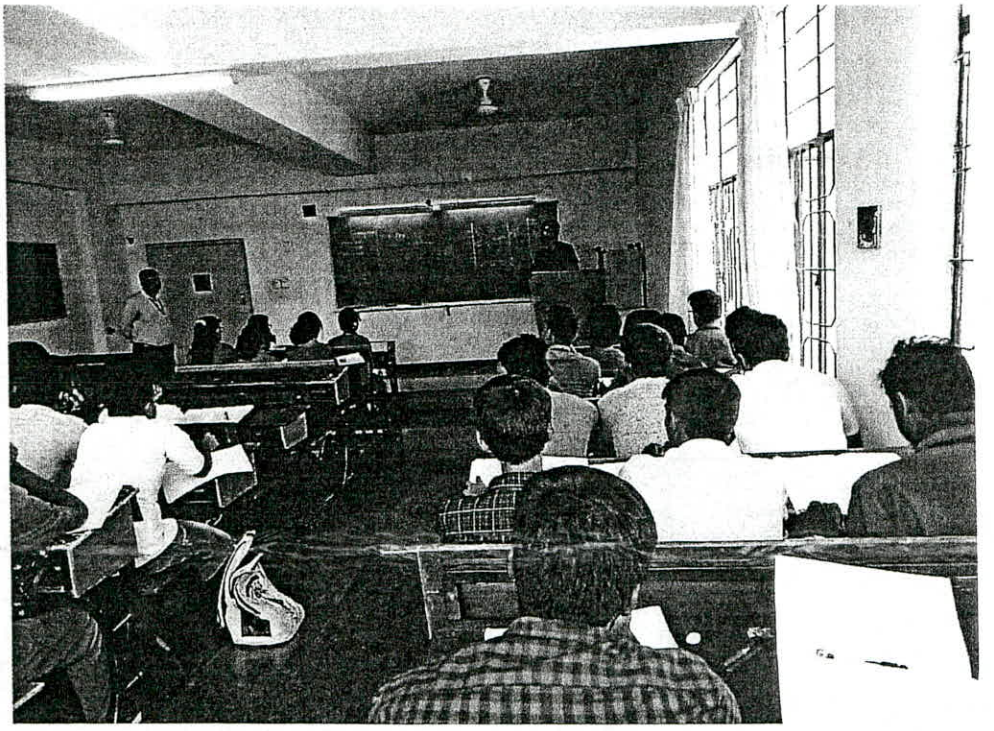
Seminar on CFD (Computational Fluid Dynamics)

Class / Semester: 4th A Course: **Fluid Mechanics (17ME44)**

Date: 08/05/2019

As a part of participative learning activity, seminar topics were given to students of 4th A Mechanical on computational fluid dynamics. Three students covered the allotted topics and other students actively participated in the activity by interaction.

1. Name of student: **Nishanth Singh** **USN :** 1SG17ME050



Nishanth Singh (1SG17ME050) delivered a seminar on the concepts related to CFD, its need and how the tool is employed in the analysis of fluid flow in complex structures. He covered the various topics related to CFD, quoting real time examples and answered different questions asked by other students.

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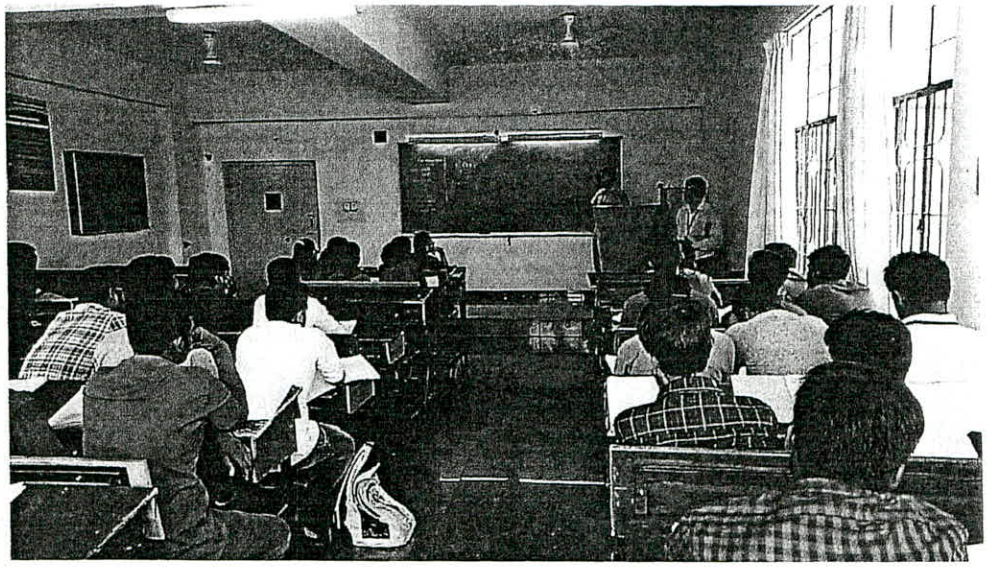
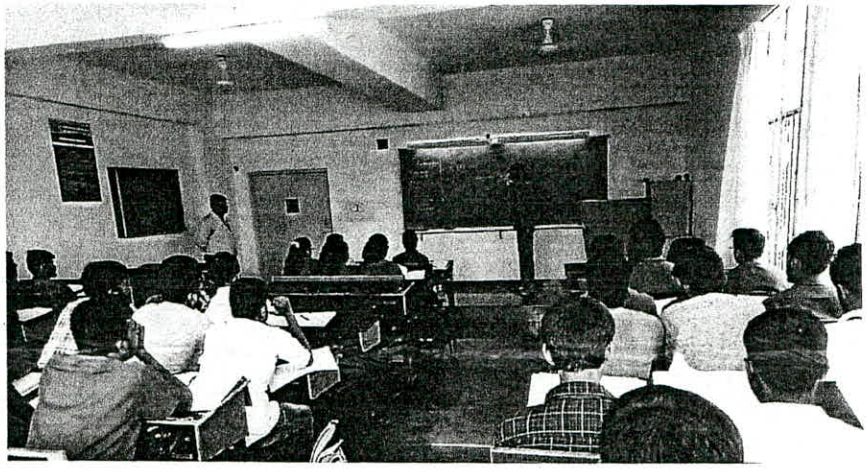
2. Name of student : **Ashutosh JhA** **USN :** 1SG17ME011



Ashutosh Jha (1SG17ME011) , discussed about the benefits and limitations of CFD. And also he explained in detail various applications of CFD and he covered in detail the scope of CFD IN different fields.

3. Name of student: **Chirag.P.Hegde** **USN: 1SG17ME019**



Chirag Hegde (1SG17ME019) took the case study of Bullet bike and TVS Apache and explained how the CFD analysis is employed to design the aerodynamic body of the TVS apache bike. He explained the benefits of CFD in improving the acceleration and efficiency of the TVS apache bike. Many queries were asked by the students and he was able to provide convincing answers.

Outcome: Peer learning, Peer teaching, Seminar in class, Participative Learning, improved communication.

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Professor & Head
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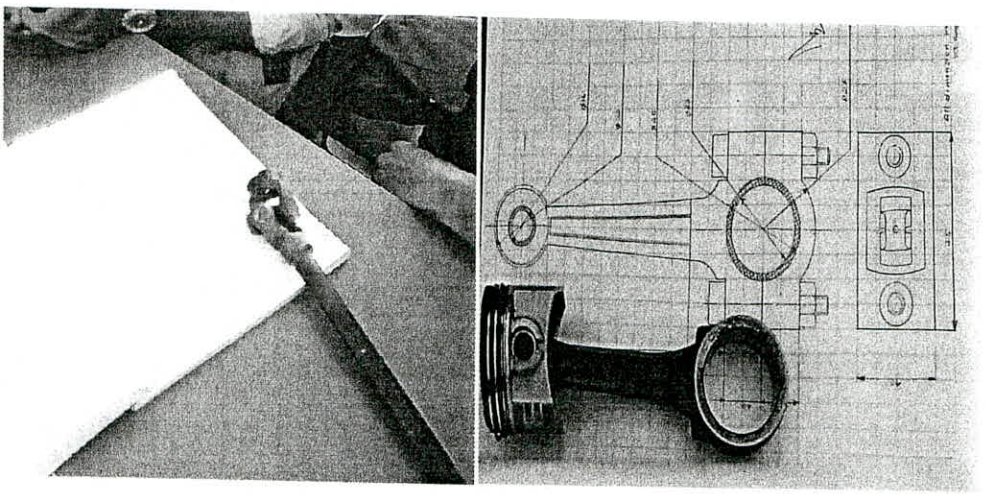
PEER TEACHING
PEER LEARNING
MODELS

SAPTHAGIRI COLLEGE OF ENGINEERING

DEPARTMENT OF MECHANICAL ENGINEERING

Teaching learning with models

2018-19



Description

Students learning about Connecting rod assembly and Hooks Joint in Computer Aided Machine Drawing Subject.

Experienced Learning, Participative Learning, Drawing, Team Work, imagination to hands on practice.

HOD

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

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Chikkasandra, Hesaraghatta Road,
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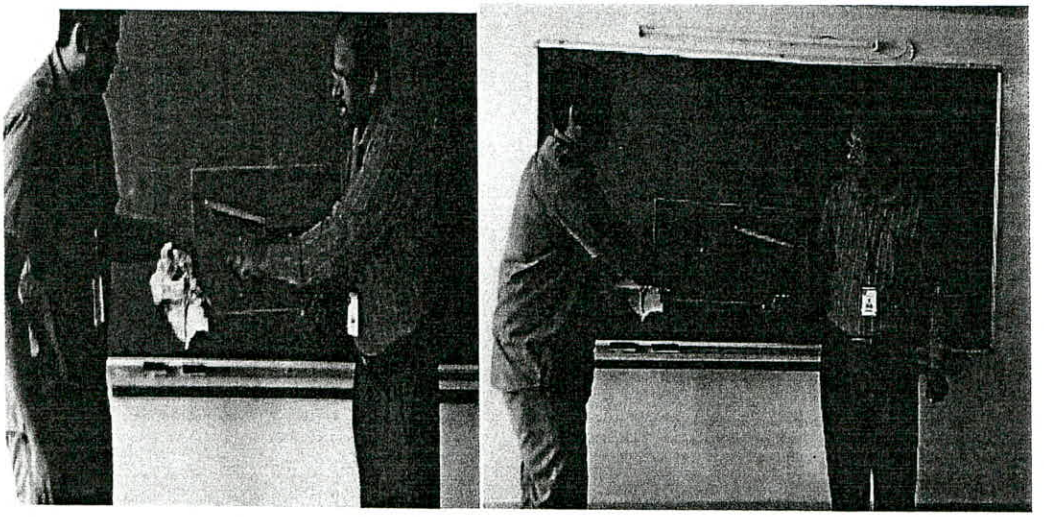
STUDENTC ENTRIC ACTIVITY
MODELS for TEACHING

2018-19



Dr. P.Mahadevaswamy, Head of Mechanical Engineering Department displaying model of quick return motion mechanism in KOM subject with help of a model prepared by a fast learner student.

Description:

Motions of mechanisms in the Kinematics of Machinery and Dynamics of Machines subject of Mechanical engineering are explained by showing the students the working model of simple mechanisms. Mechanism is the assemblage of linkages and various mechanisms put together becomes a machine. So every machine has many mechanisms and the working of mechanisms and the motions encountered in its links are important to understand. Models depict not only the types of motions but also how the velocity, acceleration and forces vary and students can feel the forces and visualize how the links are moving and how they work together to obtain motion to perform a desired work. The models displayed also helps in understanding the dynamics of the mechanism and applications where it can be used. Here the student's creative skills are improved as he can try making his own models and build mechanisms and also the thinking skills to improve the motions and enhance its performance in the project work.

Outcome:

Experienced Learning, Participative Learning, Model display, Peer Teaching, Peer Learning, Fast Lerner teaching, Curiosity Based learning, Life long learning.

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18-19

MODELS for teaching

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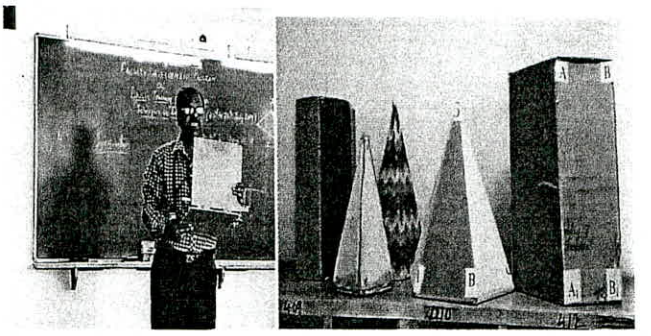
DEPARTMENT OF MECHANICAL ENGINEERING

STUDENTC ENTRIC ACTIVITY

2018-19



Dr. P.Mahadevaswamy, Head of Mechanical Engineering Department displaying Engineering Graphics models

Description

Students of first year engineering are explained drawing subject by demonstrating the quadrants representation used in the of engineering drawing by showing them a wooden model with four plates hinged together and the three dimensional models of engineering drawing shapes like prisms, pyramids, cones in the form of cardboard handmade models of regular dimensions. The models are made by giving different colors and annotations to its edges and faces. Displaying the models to the students helps in easy visualization and enhances their imagination. These models help in imagination of size, shape, position of the features used in the drawing problems. They can visualize the visible and hidden edges, faces of the solid, locations, representations given a problem.

Outcome:

Experienced Learning, Participative Learning, Model display, Curiosity Based learning, Life long learning.

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HOD

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seminar presentation

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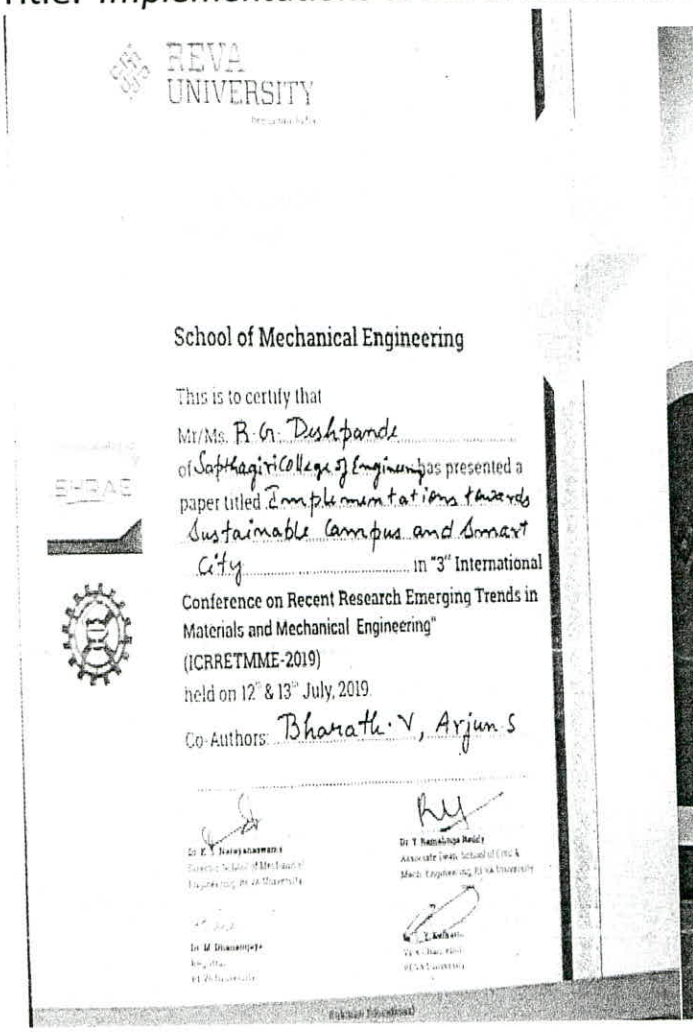
DEPARTMENT OF MECHANICAL ENGINEERING

2018-19 EVEN SEM

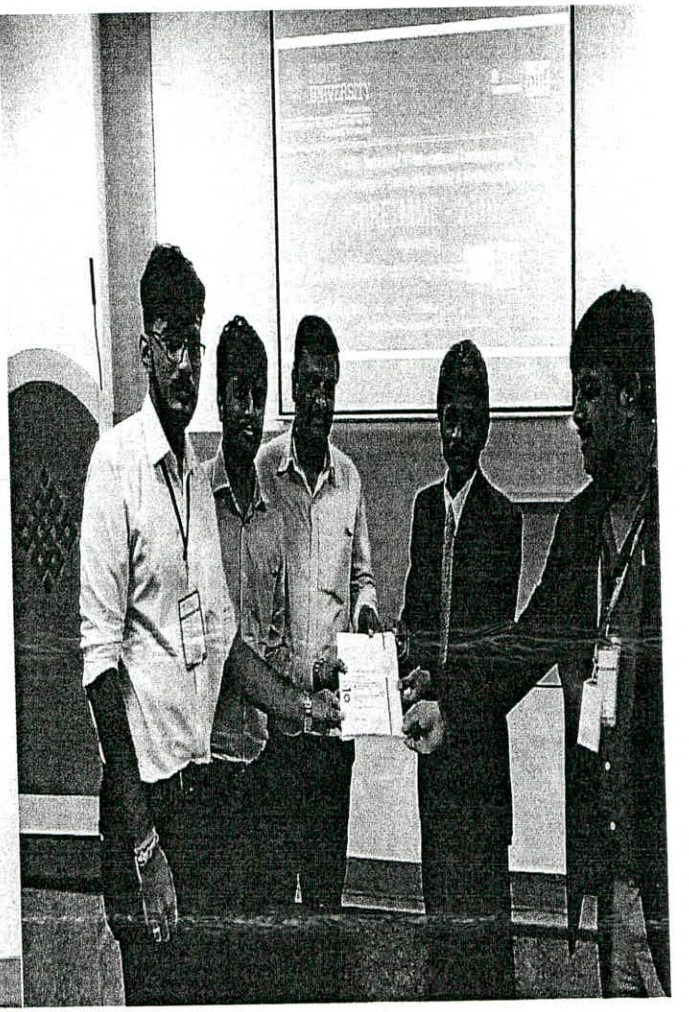
Final year students presented a paper along with Dr.R.G.Deshpande at Reva University conference ICRRETMME-2019 held on 12-13th July 2019.
Student names: Bharath.V, Arjun.S.
Title: *Implementations towards sustainable campus and smart city.*



REVA UNIVERSITY

School of Mechanical Engineering

This is to certify that
Mr/Ms. R.G. Deshpande
of Sapthagiri College of Engineering has presented a paper titled Implementations towards Sustainable Campus and Smart City in "3rd International Conference on Recent Research Emerging Trends in Materials and Mechanical Engineering" (ICRRETMME-2019) held on 12th & 13th July, 2019.
Co-Authors: Bharath.V, Arjun.S



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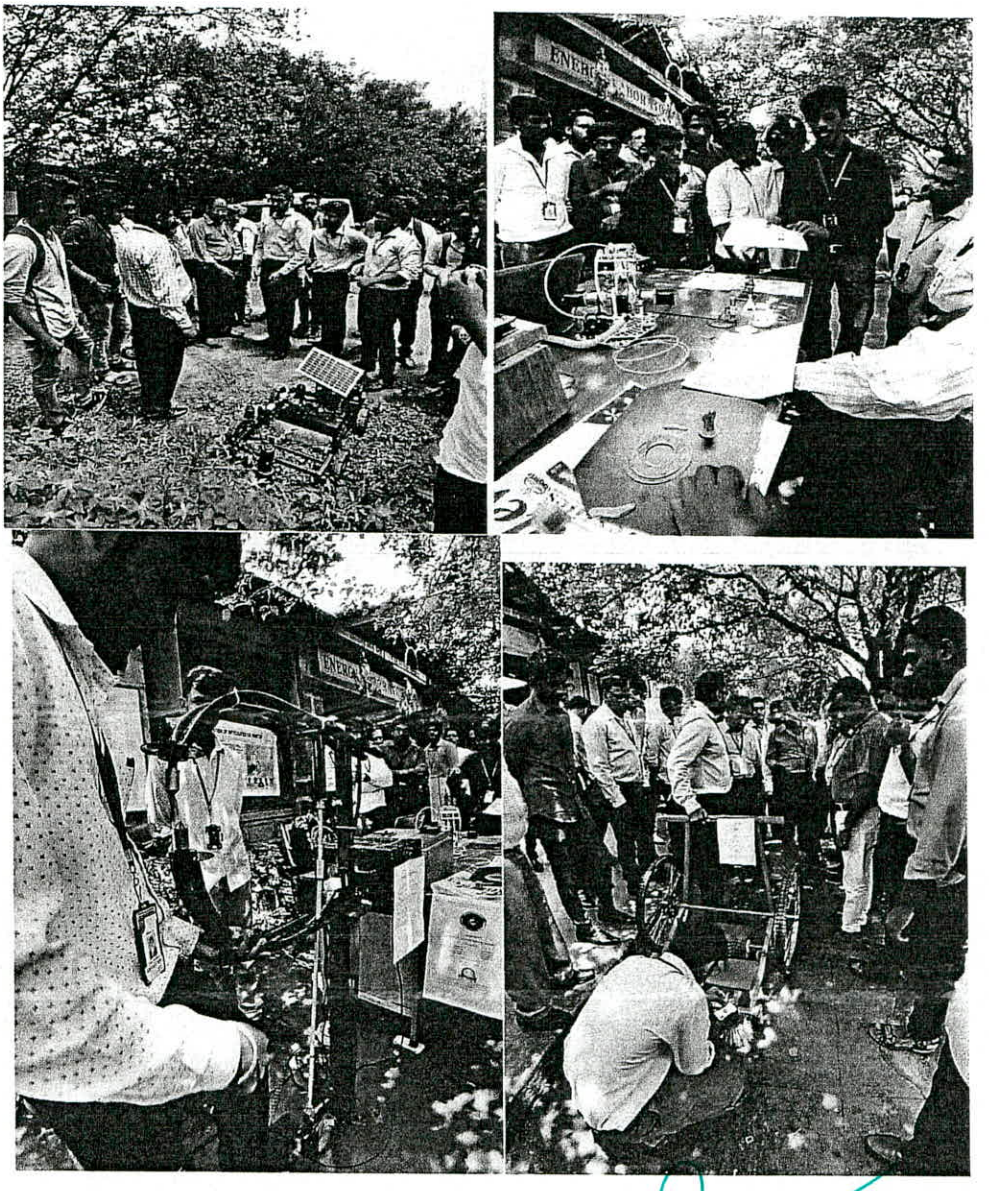
DEPARTMENT OF MECHANICAL ENGINEERING

Project Exhibition
2018-19 Even sem

Date: 07June 2019



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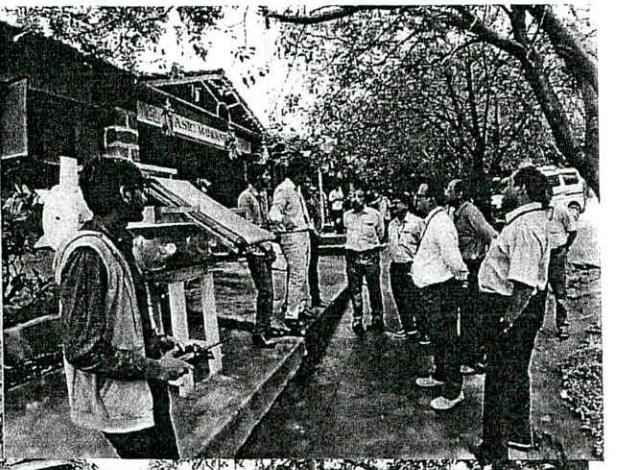

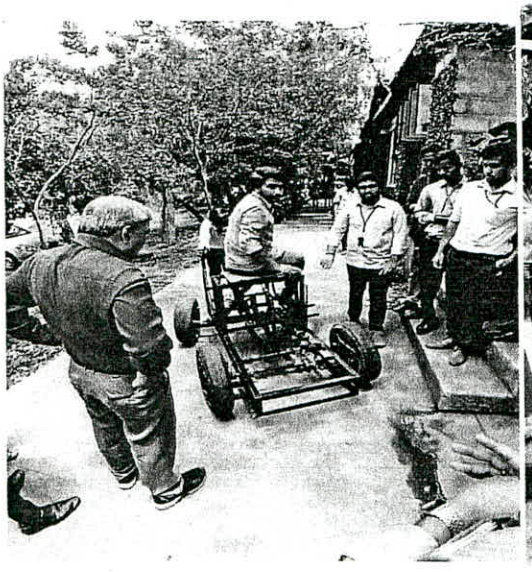

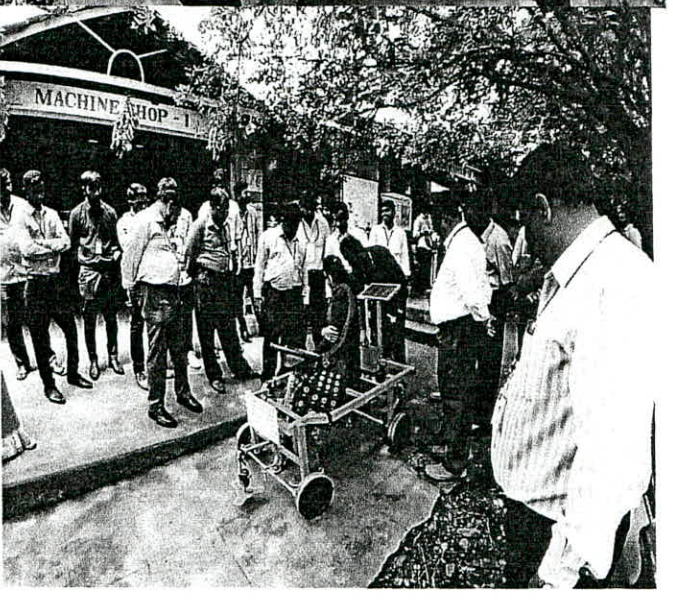

KSCST approved projects

DESIGN AND FABRICATION OF ARTICULATED 3D PRINTER	http://www.kscst.iisc.ernet.in/spp/42_series/42S_SPP_Approved_List_StreamC.pdf	42S_BE_1589
POWER GENERATION BY ENGINE EXHAUST GAS FOR AIR BRAKE SYSTEM	http://www.kscst.iisc.ernet.in/spp/42_series/42S_SPP_Approved_List_StreamC.pdf	42S_BE_2339
1.EVALUATION OF BIOFUEL BLENDED WITH PREPARED ETHANOL, N-BUTANOL AND PETROL BASED ON PERFORMANCE AND POLLUCTION LEVEL TESTS ON AN SI ENGINE	http://www.kscst.iisc.ernet.in/spp/42_series/SPP_42S_Biofuel_Compendium.pdf	42S_B_BE_123

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project exhibition peer teaching/ communication

ಅತ್ಯಾಧುನಿಕ 3ಡಿ ಪ್ರಿಂಟರ್ ಅನ್ವೇಷಿಸಿದ ವಿದ್ಯಾರ್ಥಿಗಳು

Tue, 02 July 2019
epaper.eesanje.com/c/40974312

ಹೊಸ ದಿಗಂತ

4

03 Jul 2019

ಇಂಜಿನಿಯರಿಂಗ್ ವಿದ್ಯಾರ್ಥಿಗಳಿಂದ 3ಡಿ ಪ್ರಿಂಟರ್ ಅಭಿವೃದ್ಧಿ

ವಿನೂತನ ವಿನ್ಯಾಸದ 2ಡಿ ಪ್ರಿಂಟರ್ ಪರಿಚಯ

ಸಪ್ತಗಿರಿ ಕಾಲೇಜು ವಿದ್ಯಾರ್ಥಿಗಳ ಮತ್ತೊಂದು ಸಂಶೋಧನೆ..!

Outcome: Experienced Learning, Participative Learning, Communication, Peer Teaching, Peer Learning, Life Long Learning

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Chikkasandra, Hesaraghatta Road,
Bangalore-560 057

HOD
Professor & Head
Department of Mechanical Engineering
Sapthagiri College of Engineering
Bengaluru - 560 057.

KSCST

Karnataka State Council for Science and Technology

Indian Institute of Science Campus, Bengaluru - 560 012

Telephone: [illegible] • Website: [illegible]

Certificate

This is to certify that **Dr. M. ELANGOVAN**

faculty of **SAPTHAGIRI COLLEGE OF ENGINEERING, BENGALURU**

participated in the Student Project Programme (SPP) during the year [illegible]. *He / She was the advisor to the group of students who completed the project* [illegible]

DESIGN AND FABRICATION OF ARTICULATED 3D PRINTER

[illegible] *during the Seminar and Exhibition held at* [illegible] *on 26 and 27* [illegible] *The project was supported by Department of Science and Technology, Government of Karnataka and Department of Science and Technology, Government of India.*

[illegible]

Prof. Anurag Kumar
Director, Indian Institute of Science and
Vice President, KSCST

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

18-19

election for Design Innovation Clinic (DIC)

message

sign Clinic CMTI <cmtidesignclinic@gmail.com> Sat, Mar 9, 2019 at 2:55 PM
cc: Deekshith9916@gmail.com

Dear Student,

Congratulations, your project has been selected for Design Innovation Clinic (DIC) event organized by CMTI. In this regard, please confirm your team presence for the DIC event.

1. Each team is requested to present the concept for 10 minutes to the Jury on 16th March 2019. Based on the presentations on your concept & novelty of your work on 16th March 2019, twenty teams will be shortlisted for 17th March & 18th March 2019 programme.
2. Please indicate the list of tools/items required from CMTI for the prototype development. General Tools will be provided by the CMTI and it will be published in the website or email at the earliest.
3. Limited accommodation for refreshing will be provided at CMTI guest house for the out station students.
4. Each team should pay Rs.500 at the time of registration.
5. Shortlisted teams (20 teams) will be paid Rs.2500 for reimbursement of hardware/tools against their original bills.
6. Each team should come with laptop for their project work.
7. Don't touch or break any items during lab visits & while prototype development.

ral Guidelines

- Please carry your laptops for project related activities (web search, presentation slides, etc.)
- Dress code is smart casual on all 3 days.
- Participate in all sessions and activities; be prepared for late nights.
- Take responsibility for your part of the team project, and make sure team expectations are met.
- Get timely feedback from mentor(s) for your team project from initial concept to final presentation.
- Keep your project work area neat and dump waste into designated bins. Return the tools to stations.
- Take photos and video clips of your team on all days; some of these can be used for presentation.
- Take care of your valuables (mobile, wallet, laptop). CMTI will not be responsible for any loss or theft.
- Network or unwind during mid-morning tea, working lunch, afternoon tea and dinner.
- Explore, experiment and enjoy every moment of the Camp with team members and mentors.
- Take notes and maintain a diary of your experience for sharing with friends in your organization.
- Share your daily experience, photos and videos on social media

Please contact for any queries: Anil-9986107099, Tom Thampy-7795318360, Sunil-9901979857

Regards,

il Kumar K, CMTI

schedule.pdf

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14	Jss Science Academy & Technology University	Auto Switching Hybrid Two Wheeler Vehicle	Sidha Kumar Kothari K Shashank Nambiar Chethan C Keerthan S
15	Reva University	Wireless Power Transmission	Sushma S Malanavar Supriya K S Aditya Varma NA
16	Reva University	Monitoroting Highway Wind Power Parameter And Controllinghighway Light Through Iot	Ajith S Devadiga Hariprasad B Darshan Gowda B P Rajesh J
17	Reva University	Vehicletheftdetectionandtracking basedongsmandgps	Chaitra H Bhavyashree R Bhoomika D Brunda B
18	Reva University	Cell Phone Signal Jammer	Mohammed Farhan Murali N Mahesh B Naveen N
19	Reva University	Advanced Footstep Power Generation System	Bhanushree G C Chandrima Harsha B S Sahana
20	Reva University	Smart Irrigation System Using Iot	Naveen N Nagaraj Shivabasappa Naregal Nandeesh B K Anoop G Kopade
	Atria Institute Of Technology, Bengaluru	Prediction & Prevention Of Leakages In Hydraulic Machines	Surya Murugan Tejesvi Chakravarthy Harshavardan.S Anil T
22	Atria Institute Of Technology, Bengaluru	Prediction And Analysis Of An Industrial Electromagnetic System	John Karamchand Gagan Gowda Dinakaran P Lokesh
23	GSSS Institute Of Engineering & Technology For Women, Mysuru	Predictive Maintenance System Using Iot For Manufacturing Sectors	Priyanka R Priyadarshini Pushpa K Priyanka B M
24	Shri Dharmasthala Manjunatheshwara College Of Engineering And Technology.	Online Form Measurement	Pratik S Vishwaroop Ankush Naik Devavrat Gadkar Akash Kalal
25	Sapthagiri College Of Engineering, Nite Meenakshi Institute Of Technology,Unversity Visvesvaraya College Of	Automatic Alcohol Detection And Vehicle Locking System	Devanth G Dharshan L Kushal M R Vinayaka Hegde
26	Jawaharlal Nehru National College Of Engineering	Iiot Based Process Automation	Shreyas B Sowjanya Jain Vasuki H A Shambhu Rohith Kumar B N
27	Jawaharlal Nehru National College Of Engineering	Monitoring Of Cutting Tools By Thermal Imaging	Prateek Saraf S Mayur V Sumukha Y Pawar Sumukh M S
28	Reva University	Rechargeable Power Banks	Vinay S V Vinay Singh G Solu Chowdhury Shivesh Shukla

Professor & Head
Department of Mechanical Engineering
Sapthagiri College of Engineering
Bengaluru - 560 057.

Principal
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NITTE MEENAKSHI INSTITUTE OF TECHNOLOGY

ANAADYANTA 2019
JOURNEY THROUGH THE AGES

Sapthagiri College of Engineering,
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CERTIFICATE OF PARTICIPATION

THIS IS TO CERTIFY THAT RISHA. J.P, SCE, Bangalore

HAS PARTICIPATED IN THE EVENT HYDROWAR

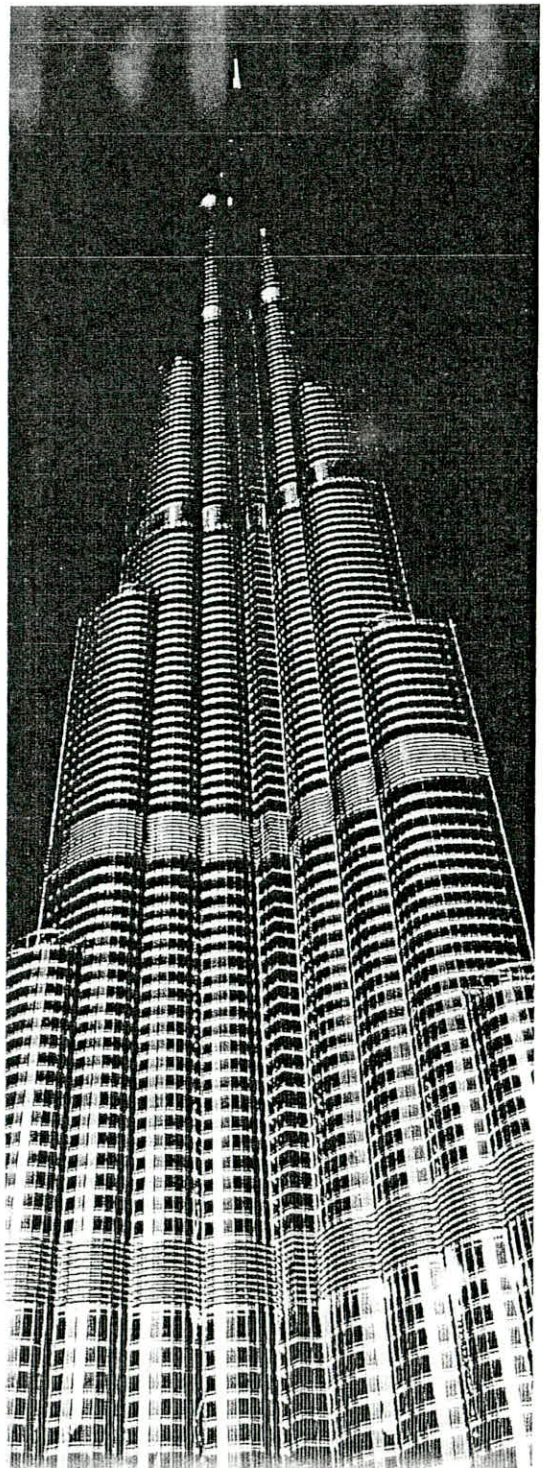
AT ANAADYANTA 2019,THE NATIONAL LEVEL ANNUAL TECHNO-CULTURAL AND MANAGEMEN

FEST HELD ON THE 6TH, 7TH, 8TH AND 9TH OF MARCH 2019.

DR. S SANDYA
TECHNICAL FACULTY COORDINATOR

DR. THIPPESWAMY M N
CULTURAL FACULTY COORDINATOR

DR. H.C NAGAR
PRINCI



B.M.S. COLLEGE OF ENGINEERING, BENGALURU -19
(AUTONOMOUS COLLEGE UNDER VTU)

NIRMAAN ICESS 2018

CERTIFICATE OF EXCELLENCE

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

This is to certify that Mr./Ms. SUSHMITHA A
from SAPTHAGIRI COLLEGE
has participated in the event ODYSSEY
and has secured the II place during the International level
Civil Engineering Student's Tech Symposium, NIRMAAN ICESS 2018,
at B.M.S. College of Engineering, Bengaluru on 18th - 19th November 2018.

H. B. Nagaraj

DR. H B NAGARAJ
Faculty Coordinator

DR. MAYA NAIK
HOD
Dept. of Civil Engineering

DR. B V RAVISHANKAR
Principal

CERTIFICATE

of Participation

CADD CENTRE

Skills Driven. Job Led

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SUSHMITHA.D.N, Civil dept, Sapthagiri College of Engg.

has participated in **International Design Competition'18**

conducted by **CADD Centre Training Services Pvt. Ltd.**

during September - November'18

CADD CENTRE
14, 3rd Floor, NH-4, Peenya,
Dasarahalli, Bangalore-560 057
Ph : 28398889
Email : ka.peenya@caddcentre.com

S. Karaiadiselvan
Managing Director

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International DESIGN COMPETITION
to identify the right talent

9th INTERNATIONAL CONFERENCE ON RECENT ENGINEERING AND TECHNOLOGY 2019

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Prin...

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This is to certify that MANISH MANJUNATH from SAPTHAGIRI COLLEGE OF ENGINEERING has presented a paper titled DESIGN OF INSULATOR FOR VARIOUS POLUTION LEVELS USING MAT LAB in the "9th International Conference on Recent Engineering and Technology" held on 5th, May 2019.

Dr. P. Aravinthan, M.E., Ph.D.,
Technical Lead, OSIET
Secretary

Prof. A. Krishnamoorthy, M.E., (Ph.D)
Technical Lead, OSIET
Administrator

Dr. S.Vijayakumar, M.Tech., Ph.D
Vice-Chairman
IEEE Product Safety Engineering Society, Madras Chapter.

K.Janani, M.Tech.,
CEO, OSIET
Director

SRI SRINIVASA EDUCATIONAL & CHARITABLE TRUST (R)

SAPTHAGIRI COLLEGE OF ENGINEERING

(Affiliated to Visveswaraya Technological University, Belgam & Approved by AICTE - New Delhi)

Bangalore,
Date: 31/10/2018

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 VII Semester EEE students to SRS substation, Peenya-Reg.

It is hereby informed that the students of our college, studying in final year of BE would like to visit a SRS substation, 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 **VII Semester** students of Electrical and Electronics Engineering to Electrical Substations. Familiarization of Electrical equipment used in the field and their positioning in Substation will help them in assimilating their academic knowledge and develop interest in learning the subjects.

We are greatly obliged, if you can allow our students in batches, about 55 per batch, to visit your Substation for a technical visit on the Afternoons of 14th(Section A) and 15th (Section B) of November 2018. For your kind information, the college does not 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 faculty will be accompanying 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,

31/10/18

(Dr. K.L. Shivabasappa)
PRINCIPAL

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

14/5, Chikkasandra, Hesaraghatta Main Road, Bangalore - 560 057. KARNATAKA,
Tel : 2837 2800 / 01 /02 / 03, 2313 0583 Fax : 080-2837 2797, E-mail : principal@sapthagiri.edu.in
Web : www.sapthagiri.edu.in

KPCL
ಕರ್ನಾಟಕ ವಿದ್ಯುತ್ ನಿಗಮ ನಿಯಮಿತ
KARNATAKA POWER CORPORATION LTD.,
(A premier power generating company of Government of Karnataka)
CIN U85110KA1970SGC001918

ಸಂಖ್ಯೆ:1 ಎಜಿ 2 ಸಿಒಡಿಐ | 1499 ದಿನಾಂಕ:06.11.2018

ಪ್ರಾಂಶುಪಾಲರು,
ಸಪ್ತಗಿರಿ ಕಾಲೇಜ್ ಆಫ್ ಇಂಜಿನಿಯರಿಂಗ್,
ನಂ.14/5, ಚಿಕ್ಕಸಂದ್ರ, ಹೆಸರಘಟ್ಟ ಮುಖ್ಯ ರಸ್ತೆ,
ಬೆಂಗಳೂರು – 560 057
ದೂರವಾಣಿ: 080–28372800 ಫ್ಯಾಕ್ಸ್: 080–28372797

ಮಾನ್ಯರೆ,

ವಿಷಯ: ಯೋಜನಾ ಪ್ರದೇಶಗಳನ್ನು ವೀಕ್ಷಿಸಲು ಅನುಮತಿ – ಕುರಿತು.

ಉಲ್ಲೇಖ: ನಿಮ್ಮ ಪತ್ರ ಸಂಖ್ಯೆ:---------- ದಿನಾಂಕ:03.11.2018.

*****

ಯೋಜನಾ ಪ್ರದೇಶಗಳನ್ನು ಸಂದರ್ಶಿಸಲು ತಾವು ಬರೆದುಕೊಂಡ ಉಲ್ಲೇಖಿತ ಪತ್ರದಲ್ಲಿ ತಿಳಿಸಿರುವಂತೆ ಈ ಕೆಳಗೆ ನಮೂದಿಸಿದ ದಿನಾಂಕಗಳಂದು ನಮ್ಮ ಯೋಜನಾ ಪ್ರದೇಶಗಳನ್ನು ಸಂದರ್ಶಿಸಲು ತಮ್ಮ ಸಂಸ್ಥೆಯ 7ನೇ ಸೆಮಿಸ್ಟರ್ ಎಲೆಕ್ಟ್ರಿಕಲ್ & ಎಲೆಕ್ಟ್ರಾನಿಕ್ಸ್ ಇಂಜಿನಿಯರಿಂಗ್ 76 ವಿದ್ಯಾರ್ಥಿಗಳು ಹಾಗೂ 04 ಉಪನ್ಯಾಸಕರು ಸೇರಿ ಒಟ್ಟು 80 ಸದಸ್ಯರಿಗೆ ವೀಕ್ಷಿಸಲು ಅನುಮತಿ ನೀಡಲಾಗಿದೆ. [ಭೇಟಿಯ ಸಮಯ: ಬೆಳಗ್ಗೆ 9.00 ಘಂಟೆಯಿಂದ 12.00 ಘಂಟೆಯವರೆಗೆ ಮತ್ತು ಮಧ್ಯಾಹ್ನ 2.00 ಘಂಟೆಯಿಂದ 4.30 ಘಂಟೆಯವರೆಗೆ ಮಾತ್ರ – ಶನಿವಾರ ಬೆಳಗ್ಗೆ ಮಾತ್ರ].

1. ದಿನಾಂಕ:09.11.2018ರಂದು ಸೂಪ ಡ್ಯಾಂ ಮತ್ತು ಪವರ್ ಹೌಸ್/ಗಣೇಶಗುಡಿ, ಉತ್ತರ ಕನ್ನಡ ಜಿಲ್ಲೆ.
2. ದಿನಾಂಕ: 10.11.2018ರಂದು ಮಾನಿಡ್ಯಾಂ ಪವರ್ ಹೌಸ್/ಮಾಸ್ತಿಕಟ್ಟೆ ಮತ್ತು ವರಾಹಿ ಭೂಗರ್ಭ ಜಲ ವಿದ್ಯುದಾಗಾರ/ ಹೊಸಂಗಡಿ ಯೋಜನಾ ಪ್ರದೇಶಗಳು. ಉಡುಪಿ ಜಿಲ್ಲೆ.

ಈ ಅನುಮತಿಯು ಕೆಳಗಿನ ನಿಬಂಧನೆಗಳಿಗೆ ಒಳಪಟ್ಟಿರುತ್ತದೆ.

1. ಸಂಸ್ಥೆಯ ಮುಖ್ಯಸ್ಥರಿಂದ ಪಡೆದಿರುವ ಗುರುತಿನ ಚೀಟಿಯನ್ನು (Identity card) ಹಾಜರು ಪಡಿಸಲು ಸೂಚಿಸಲಾಗಿದೆ. ಗುರುತಿನ ಚೀಟಿ ಇಲ್ಲದಿದ್ದ ಪಕ್ಷದಲ್ಲಿ ಮುಖ್ಯಸ್ಥರಿಂದ ದೃಢೀಕರಿಸಿರುವ ವಿದ್ಯಾರ್ಥಿಗಳ ಮತ್ತು ಉಪನ್ಯಾಸಕರ ಹೆಸರುಗಳ ಪಟ್ಟಿಯನ್ನು ಕಡ್ಡಾಯವಾಗಿ ಹಾಜರು ಪಡಿಸಲು ಸೂಚಿಸಲಾಗಿದೆ.
2. ಪಟ್ಟಿಯಲ್ಲಿರುವವರನ್ನು ಭಾರತೀಯ ಪೌರರೆಂದು ದೃಢೀಕರಿಸಬೇಕು. ಇಲ್ಲದ ಪಕ್ಷದಲ್ಲಿ ಅನುಮತಿಯನ್ನು ನಿರಾಕರಿಸಲಾಗುವುದು. ವಿದೇಶಿಯರಿಗೆ ಯೋಜನಾ ಪ್ರದೇಶಗಳಿಗೆ ಅನುಮತಿ ನೀಡಲಾಗುವುದಿಲ್ಲ.
3. ವಿಡಿಯೋ/ಮೊಬೈಲ್/ಕ್ಯಾಮರಗಳನ್ನು ಯೋಜನಾ ಪ್ರದೇಶದ ಒಳಗೆ ತೆಗೆದುಕೊಂಡು ಹೋಗುವುದನ್ನು ಹಾಗೂ ಛಾಯಾಚಿತ್ರಗಳನ್ನು ಸೆಲ್ಫಿ ತೆಗೆಯುವುದನ್ನು ನಿಷೇಧಿಸಲಾಗಿದೆ.
4. ವಿದ್ಯಾರ್ಥಿಗಳು 16 ವರ್ಷ ಮೇಲ್ಪಟ್ಟವರಾಗಿದ್ದು ಸಂಸ್ಥೆ/ಕಾಲೇಜು ಮುಖ್ಯಸ್ಥರುಗಳು ಕಡ್ಡಾಯವಾಗಿ ತಂಡದೊಂದಿಗೆ ಇರಬೇಕು. ವಿದ್ಯಾರ್ಥಿಗಳ ರಕ್ಷಣೆಯ ಜವಾಬ್ದಾರಿ ಸಂಸ್ಥೆ/ಕಾಲೇಜಿನ ಮುಖ್ಯಸ್ಥರುಗಳಿಗೆ ಸೇರಿರುತ್ತದೆ.
5. ಯೋಜನಾ ಪ್ರದೇಶದಲ್ಲಿ ಆಹಾರ ಸ್ವೀಕರಿಸುವುದು, ಮನೋರಂಜನೆ ಮತ್ತು ಖಾಸಗಿ ವಾಹನಗಳಿಗೆ ಅವಕಾಶವಿರುವುದಿಲ್ಲ.
6. ಯೋಜನಾ ಪ್ರದೇಶದಲ್ಲಿ ನಿಗಮದ ಯಾವುದೇ ಆಸ್ತಿ-ಪಾಸ್ತಿಗೆ ಹಾನಿ ಉಂಟುಮಾಡುವಂತಿಲ್ಲ. ಒಂದು ವೇಳೆ ಪ್ರಾಣ ಹಾನಿ ಮತ್ತು ಯಾವುದೇ ಅಹಿತಕರ ಘಟನೆಗಳು ಸಂಭವಿಸಿದಲ್ಲಿ ಈ ಘಟನೆಗಳಿಗೆ ಸಂಸ್ಥೆಯ/ಕಾಲೇಜಿನ ಮುಖ್ಯಸ್ಥರು ಸಂಪೂರ್ಣ ಜವಾಬ್ದಾರರಾಗಿರುತ್ತೇವೆಂದು ಹಾಗೂ ನಿಗಮದ ಆಸ್ತಿ-ಪಾಸ್ತಿಗೆ ಧಕ್ಕೆ ಉಂಟು ಮಾಡಿದಲ್ಲಿ ಸಂಪೂರ್ಣ ವೆಚ್ಚವನ್ನು ಭರಿಸಿ ಕೊಡಲಾಗುವುದೆಂದು ಪ್ರಮಾಣ ಪತ್ರದ ಮುಚ್ಚಳಿಕೆಯನ್ನು ಭೇಟಿ ನೀಡುವ ಸಂದರ್ಭದಲ್ಲಿ ಯೋಜನಾ ಪ್ರದೇಶದ ಮುಖ್ಯಸ್ಥರುಗಳಿಗೆ ಕಡ್ಡಾಯವಾಗಿ ನೀಡತಕ್ಕದ್ದು. ನಿಗಮ ಯಾವುದೇ ರೀತಿಯಲ್ಲಿ ಜವಾಬ್ದಾರಿಯನ್ನು ಹೊಂದಿರುವುದಿಲ್ಲ.

ಸಂದರ್ಶಿಸುವ ತಂಡವು ಯೋಜನಾ ಪ್ರದೇಶಗಳನ್ನು ಪ್ರವೇಶಿಸಿದ ನಂತರ ಭೇಟಿಯ ವ್ಯವಸ್ಥೆಗಾಗಿ ಯೋಜನಾ ಪ್ರದೇಶದ ಕಾರ್ಯನಿರ್ವಾಹಕ ನಿರ್ದೇಶಕರು (ಹೈಡಲ್)/ ಕೆಪಿಸಿಎಲ್, ವಿಯುಜಿಪಿಹೆಚ್, ಹೊಸಂಗಡಿ–576282, ಕುಂದಾಪುರ ತಾಲ್ಲೂಕು ದೂರವಾಣಿ: 08259-288242 ಹಾಗೂ ಮುಖ್ಯ ಅಭಿಯಂತರು(ಸಿವಿಲ್)ಕಾಳಿ, ಕೆಪಿಸಿಎಲ್, ಗಣೇಶಗುಡಿ, ಉತ್ತರಕನ್ನಡ ಜಿಲ್ಲೆ ದೂರವಾಣಿ: 08383–256522 ಇವರುಗಳನ್ನು ಸಂಪರ್ಕಿಸುವುದು.

ವಂದನೆಗಳೊಂದಿಗೆ,

ತಮ್ಮ ವಿಶ್ವಾಸಿ,
ಕರ್ನಾಟಕ ವಿದ್ಯುತ್ ನಿಗಮ ನಿಯಮಿತದ ಪರವಾಗಿ

(ಉಪ ಪ್ರಧಾನ ವ್ಯವಸ್ಥಾಪಕರು(ಕಾರ್ಪೊರೇಟ್ ಕಮ್ಯುನಿಕೇಷನ್)

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

स्वच्छ भारत
एक कदम स्वच्छता की ओर

भारत इलेक्ट्रॉनिक्स
BHARAT ELECTRONICS

18-19

भारत इलेक्ट्रॉनिक्स लिमिटेड
(भारत सरकार का उद्यम, रक्षा मंत्रालय)
जालहल्ली पोस्ट, बेंगलूरु - 560 013, भारत
BHARAT ELECTRONICS LIMITED
(A Govt. of India Enterprise, Ministry of Defence)
Jalahalli Post, **BENGALURU - 560 013**, India

फोन / Phone : 080-22195323
फैक्स / Fax :
ईमेल / E-mail :

THE PRINCINPAL
SAPTHAGIRI COLLEGE
OF ENGINEERING,
BANGALORE-560 057.

No. 383 /HR/CLD/700/2018-19
Date: 17-12-2018

Dear Sir/Madam.

Sub: Internship permission

With reference to your request, we are permitting the following student/s of your institute to carry out the project work for a period of **30 days**. In this regard, the student/s may be advised to report at HR/CLD at 8: 00 AM on any Monday or Wednesday of a week for commencing the project work.

PROJECT ID	STUDENT NAME	COURSE	DISCIPLINE
342	VIKHYAT S DESAI	BE	EEE

PROJECT ALLOTMENT: Student will be assigned a project by the project guide of the SBU concerned.

PHOTOGRAPHS FOR IDENTITY BADGE: Student should bring two stamp size photographs for arranging the identity badge by our security department. Also, student should bring college ID for identification.

DISCIPLINE: Student must adhere to the company timings (incoming, outgoing and lunch break etc.) applicable in the place of posting. Extension of project work period will not be granted. Hence, the student must complete the project within the stipulated time. Student is requested to wear formal dress only.

Note: Student is not permitted to carry mobile phones, floppies, CDs and pen drives during the course of project work in BEL. No accommodation and transport will be provided. Canteen facility is available on chargeable basis.

Thanking You,

Yours faithfully,
for **BHARAT ELECTRONICS LIMITED,**

AUTHORISED SIGNATORY

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

internship

ಕರ್ನಾಟಕ ವಿದ್ಯುತ್ ಕಾರ್ಖಾನೆ ನಿಯಮಿತ
(ಕರ್ನಾಟಕ ರಾಜ್ಯ ಸರ್ಕಾರದ ಸ್ವಾಮ್ಯಕ್ಕೊಳಪಟ್ಟಿದೆ.)

KARNATAKA VIDYUTH KARKHANE LIMITED

(A Karnataka Government Undertaking)
ISO-9001-2008 Company CIN : U31101KA1975PLC002954
GST No. : 29AAACK6760C1ZL

KAVIKA/PA/2018-19/ 2582 Date: 19.12.2018

The Principal
Sapthagiri College of Engineer
Chikkasandra, Hesaraghatta Road
Bangalore-560 057.

Dear Sir,

Sub: Permission for Internship.

Ref: Your letter Dated: 06.12.2018.

****

With reference to your above letter following Students of B.E is permitted to do Internship in our company in the area of **"A STUDY ON MANUFACTURING AND TESTING OF DISTRIBUTION TRANSFORMERS"** in our organization for a period from 16.01.2019 to 01.02.2019.

Sl.No	Students Name	Reg No
1	Prakruthi Jain Y S	1SG16EE069
2	Srushti K	1SG16EE097
3	Nirosha H V	1SG16EE063
4	Vandana M	1SG16EE100
5	Shubha s	1SG16EE089
6	Yashaswini S	1SG16EE108
7	Swathi B	1SG16EE099

Sri. M.Manjunath, Asst.Engineer-Production of KAVIKA will guide the students.

Thanking you,

Yours faithfully
KARNATAKA VIDYUTH KARKHANE LIMITED

DEPUTY MANAGER-PERSONNEL

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

ADITYA BIRLA

UltraTech

Date: Feb 08, 2019

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr Vinith Kumar T (Reg. No.1SG15EE095)** student from Sapthagiri College of Engineering Bangalore has successfully completed his project work titled **"A Study on Power Generation Transmission & Protection of Equipment's"** in **UltraTech Cement Limited, A.P. Cement Works, Tadipatri** during the period of **Jan 07, 2019 to Feb 06, 2019.**

This certificate has been issued towards partial fulfilment of his academic degree.

for **UltraTech Cement Limited**
(Unit: A P Cement Works)

Sumit Senapati
General Manager – Human Resources

UltraTech CEMENT
The Engineer's Choice

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

Guest Lecture
2018-19

Guest Lecture Report

Topic: "Recent trends on Networking"

By

Mrs. Sunita Amingad
Technical Manager
Jetking
Bangalore

Date: 16.03.2019

Time: 10.30 am to 12.30 pm

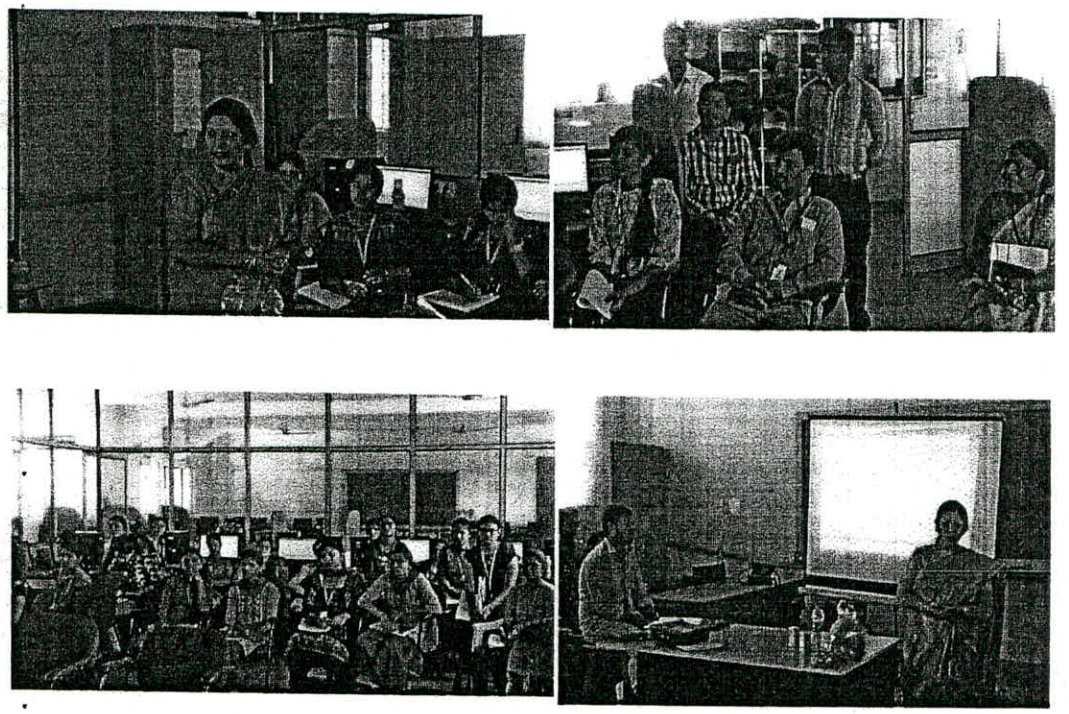
Venue: Microprocessor Lab, SCE Bangalore.

The session began with a discussion on Introduction to the network. Speaker briefed about the topics such as Scope of Network, Working of OSI Model, Firewall, types of routing and security in networking. Hands-on was conducted using packet tracer software on various topics such as wired and wireless communication with security.

The session continued with the introduction to Computer Communication Networking and protocols basics. Speaker explained the different types of networks available and their applications. They also discussed about the usage of open source networking tools. They demonstrated the application and made the session more interactive.

Further speaker suggested the implementation ideas for their project. The session concluded with student's interaction with the questionnaire. Student found the session to be very useful as the lecture covered the topics beyond their syllabus in both lab as well as theory and given idea about practical applications of Computer networks.

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



Students and faculties attending the Guest lecture by Mrs. Sunita Amingad

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

Dr. HC Sateesh Kumar 18/3/2010
HOD ECE

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

18-19

SAPTHAGIRI COLLEGE OF ENGINEERING
14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru-560057

SAPTHAGIRI
College of Engineering
Creating Tomorrow

TECHNICAL PAPER REPORT
ON

"EXPERIMENTAL INVESTIGATION AND ANALYSIS OF CRITICAL SPEED OF SHAFT"

Submitted in partial fulfillment of

BACHELOR OF ENGINEERING
IN
MECHANICAL ENGINEERING

Submitted by

RAHUL N DIXIT **(1SG15ME072)**
MITHUN RAGHUNANDAN **(1SG15ME055)**

Under the Guidance Of

Dr. TULSIDAS D
Associate Professor
SCE, Bangalore

DEPARTMENT OF MECHANICAL ENGINEERING
SAPTHAGIRI COLLEGE OF ENGINEERING
14/5, Chikkasandra, Hesaraghatta Main Road, Bengaluru-560057

[*AFFILIATED TO VIVSVESWARAYA TECHNOLOGICAL UNIVERSITY, BELAGAVI*]

2018-19

5/2/2019

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

EXPERIMENTAL INVESTIGATION AND ANALYSIS OF CRITICAL SPEED OF SHAFT

case study using software

[1]Rahul N Dixit, [2]Mithun Raghunandan, [3]Dr Tulsidas D

[1,2]Undergraduate Students, Department of Mechanical Engineering, Sapthagiri College of Engineering, Bangalore, India
[3]Associate Professor, Department of Mechanical Engineering, Sapthagiri College of Engineering, Bangalore, India

Abstract: One of the methods to determine natural frequency and the mode shapes of an object is by using modal analysis. In the present work, analysis of a 1m length shaft of diameter 6 mm is performed experimentally for two different boundary conditions and first two modes are extracted for fixed-free and free-free boundary condition. The critical frequency of the shaft is determined and the results are compared with theoretical results. The shaft is analyzed using ANSYS software with pre-determined boundary conditions and mode shapes are extracted. A Campbell diagram is plotted to determine the shafts response as a function of its oscillation.

Index Terms **- Natural frequency, Modal Analysis, Critical speed, Campbell diagram, ANSYS Workbench.**

I. INTRODUCTION

Rotating machinery such as compressors, turbines, pumps, jet engines, turbochargers, etc., are subject to vibrations. These vibrations are broadly classified as synchronous (due to unbalance) or nonsynchronous such as caused by self-excited rotor whirling. The three major areas of concern are rotor critical speeds, system stability and unbalance response. Critical speeds are the un-damped natural frequencies of the rotor system. As a first step in turbo rotor design, an analysis is performed to determine the system critical eds, mode shapes and energy distribution.

The objective of this paper is to determine the critical speed of a shaft of 6mm diameter and study the mode shapes under different end conditions using fixed and flexible bearings. The modal analysis has been carried out additionally in ANSYS Workbench 15.0 and the critical speeds are determined for the different end conditions. The modal analysis was helpful in accurately visualizing the mode shapes and their corresponding natural frequencies. The experimental results are confirmed by theoretical calculations using Dunkerley's equation to calculate natural frequency and critical speed. The geometry modeling of the shaft was done using CATIA V5.

II. LITERATURE REVIEW

Thorough literature survey was done on the procedure to obtain critical speed of shaft, analyze the shaft using ANSYS and the past studies done.

Ankit J. Desai et al [1] measured the critical speed of shafts of various diameters and have also evaluated the self-excited motion based on the change of amplitude ratio with respect to frequency ratio.

Mr. Balasaheb Keshav Takle [2] has obtained the natural frequency of shafts of different diameters and has validated them experimentally and has also determined the critical speed of shaft theoretically.

Shelar Santosh Ashok et al [3] studied and obtained the critical speed of shafts of different lengths and diameters by using analysis method.

Dr. C. M. Ramesha et al [4] carried out modal analysis of a single cylinder engine crankshaft and the natural frequencies for two conditions were found and harmonic response of crankshaft was studied.

Do-Kwan Hong et al [5] analyzed rotor dynamics of a rotor with shrink fit by using 3D FEA method. The 3-D rotor dynamics analysis and Campbell diagram considering shrink fit are examined for the critical speed of rotor

III. OBJECTIVES

- Determine critical speed of shaft experimentally.
- Obtain mode shapes experimentally for different end conditions.
- Calculate the critical speed theoretically using Dunkerley's formula.
- Perform modal analysis using ANSYS Workbench 15.0 to determine critical speed.
- To plot rotating speed of shaft against natural frequency (Campbell Diagram).

IV. CRITICAL SPEED/ WHIRLING SPEED OF SHAFT

The critical speed of a rotating shaft is the speed at which the shaft starts to vibrate violently in the transverse direction. Critical speed is also called 'whipping' or 'whirling' speed. The main reason for the whirling speed is the mass unbalance of the shaft when the shaft centre does not coincide with the geometric centre.

When the shaft vibrates with maximum amplitude i.e. when the working frequency is equal to the natural frequency, we get the first mode shape and the corresponding speed is called the first critical speed. Fig.1 shows the 1st mode shape.

When the working frequency is equal to the second natural frequency, we get the second mode shape and the corresponding speed is called the second critical speed. Fig.2 shows the second mode shape.

Child Rescue System against Open Borewells

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Abstract— This paper is generally based on the child rescue in the bore well. Nowadays child falls into an abandoned bore well, which is left uncovered and get trapped. Normal operation to rescue the child is to pit a dig nearer to the bore well. That logic is difficult and also risky to rescue the trapped child. It takes extra time to recover the child from the bore well. The mechanical system moves inside the uncontrolled bore well. In these cases normal operation of human rescue is done by using big machines with large manpower involvement. The rescue process to save the human from bore well is a very long and complicated process. It is time taking process and also risky in various ways. So the aim is to prevent the people from falling in ton the bore well .Our Paper reviews and suggests a new design which has a sensor kept at top of bore well hole. It helps to sense the people if they fell inside.

Keywords: Child Rescue System against Open Borewells, Water Scarcity

I. INTRODUCTION

Water scarcity is the major problem faced by the human society. Due to drought and depletion of underground water more bore wells are drilled on the surface of the earth. Due to water scarcity more bore wells are being sunk. In many areas the bore wells are drilled and leaved as it as open without proper covering. This abandoned bore wells have become death pits and started taking many innocent lives especially small children. Now a days falling of peoples in bore wells are increasing due to the carelessness of human beings. The holes dug for the bore wells are deep around 700 feet. In these cases the rescue of peoples from such deepest bore wells is quite challenging. Many times the rescue system for peoples from bore wells may risk the life. The existing system for rescuing the people from bore wells is not only difficult and also very risky to save the trapped human life. A small delay in rescue operation can even cost human life. Even though the necessary rescue operation is taken, many factors such as lack of oxygen, increasing temperature and humidity.

In such depth will be another risk for human life. So far there are many solution but with limitations available for giving relief to such accidents .This child rescue presents a proactive approach to prevent child fatalities at open uncapped bore-wells in India, which is based on communications using Infra-Red signals. When the signal generated by IR sensors, placed two inches below the entrance of bore-well, breaks due to any obstructing object, an alert message is dispatched through GSM and at the same time, a metal plate that is kept a few feet lower in the bore-well closes the bore in order to prevent the object from falling deeper into the well. The solution presented in this paper is a simple and yet easily scalable and highly reliable, utilizing the proven technology of Infra-red signaling.

II. LITERATURE SURVEY

Bore-wells in India have almost eliminated the water problem in all areas (houses, agriculture and industries) in various States. Increasing demand and reduced ground water levels are the main causes to drill bore-wells even deeper and bigger in size over time. The average bore-hole size is 2.5 inches, the size has been increased to 7 inches and in 21st century it is more than 14 inches. The drilling technology available has made no compromise in depth of a bore-well to get water. However there are no such standard rules in India like bore-hole diameter, depth of the bore-well for drilling and sealing the dry bore-wells. In normal cases a truck mounted with driller, drills with a starting diameter of 4.5 inches. The size of the hole is also depends on geological structure of the area. In Rajasthan and Gujarat the diameter can go up to 20 inches starting from 14 inches. In rest of India on an average 8 to 10 inches diameter is used.

Unfortunately some of the illegal bore-wells which are made to save life become threat to the life of children's. The bore wells, which successfully hit the water does not pose any threat because those are completely sealed with casing after installing the motors. Bore-wells which are not successfully hit the water at maximum depths, they are left uncovered and abounded. Such bore wells are called dry or dead borewell, these uncapped bore-wells become threat to the children. There are many incidents filed against bore-well death of children are rising day by day.

Up to now the methods used to save the child, fallen in the bore-well is manual rescue method. In which a big hole is dug beside the bore well up to the depth where the child is stuck. During this process a huge amount of human resources (military, Paramedical, etc.), machinery (JCBs, Tractors, etc.) is used. A small delay in these resource accumulations may reduce chances of saving child alive. If the area beside the bore hole contain rocks below certain depth, this situation becomes very worse if the size of the rock is very big in such cases the whole process is to bere initiated again from new place. In such cases the chances of saving child alive is very low. Whatever may be the case the success ratio depends on lots of factors like availability of machinery, time taken for transportation of machinery to the situation, availability of human resources and mainly the response time of various government organizations. In India according to the NCRB report of 2011 there are 5 average deaths per day due to the abandon bore wells.

III. PROPOSED METHODOLOGY

The technique proposed in this paper prevents a child death when fallen into a bore well, as the technique stops the child at a certain depth in the bore well thereby preventing the child from falling much deeper into the bore well.

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Library Assistant Robot

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Abstract—**Theutilization of robots in modern generation has developed fundamentally in the previous decades around the world. Interestingly the utilization of robots in different applications is as yet constrained. The use of robots in library application has turned out to be all the more intriguing. Book picking robot is an administration robot which perform assignments, for example, book identifying, picking and delivery it to the librarian and then the book is placed back to the same rack after the return. The procedure of book finding and picking is robotized by this work. The robot will move towards the book and the route of robot is controlled utilizing line following. The automated arm will move near the book and the gripper will close the jaws to get a grip of the book and then the mechanical arm is lifted, later the robot returns the book back to the librarian.**

Keywords - RFID, IR sensor, LCD, DC motors.

I. INTRODUCTION

Library has many connotations. A library is a collection of information resources and services, organized for use, and maintained by a public body, institution, or private individual. In the more traditional sense, it means a collection of books. Typically, we need a librarian to pick the books and hand it over to the person to whom the books are being issued. This might be an easy task in case the library floor area is small. Also, to search for the books by humans takes a lot of time as many a times the books gets overlooked by the human eye. To automate this process of book finding and picking suggested a robot with an arm with some degrees of freedom which will be able to find out the book with the required tag and then pick it and place it on the table. Library assistant robot is a line follower robot to follow a line or path may be a physical mark, already predetermined by the user. IR sensor will trace a black line on white surface. The books are placed in the rack and all the books will be tagged by unique identification (Barcode/RFID tags) and a reader will be placed in the robot. The robot will scan each book and in case the book is found, the arm will pick-up the book from the rack and the robot will move to the librarian table. This controller plays a major role like brains for humans, controlling the robot to navigate all around the work space and to accomplish the given task automatically based on the sensor information and the inbuiltprogram.

II. RELATEDWORK

Many large libraries are facing difficulties in retrieval of books from racks and shelves by human beings as these are very high and large in number to remember the shelf and rack number where the particular book is stored. This is done using the computer system which maintains a database of the book and the location of the book. An experienced librarian can locate the book easily by knowing the book number, rack number and shelf number. In this section, a summary of related works is given.

[1]This paper demonstratesthe application of robot in ,Automation in library management using Lab view robot for library managementsystem.Library administration is an undertaking asset arranging framework for library, used to track things owned, orders made, bills paid, benefactors who have acquired. Usually the librarian need to pick the book and give up it to the one whom the books are being issued. This is difficult task in case the library floor area is large. To defeat this trouble, this paper iscreating robotizationin library to fast delivery of books using robotic arm. The use of robots characterizes some of modern trends in automation of the modern process. This project is pick and place robotic arm RIO based mechatronic system. EM-18 RFID reader is used to recognize the book. This system helps to keep the records of book. A robot is designed using sensor operated motors to keep track the library book shelfarrangements.

[2]This paper describes a system which uses a mobile robot as a teleported tool for accessing and manipulating remote objects. The purpose of this study is to develop a robot system which helps humans to accomplish remotely a given task in their daily life, based on simple communication and mutual cooperation between them and a teleported mobilerobot.

[3]In this paper, Barcode fingerprinting: unique identification of commercial products with the JAN/EAN/UCC barcode, This paper presents work in progress towards a complete system working to assist users in a library. With this aim, the system must be capable to looking for a specific book in a shelf, asked by any user, and whether it is found, deliver it as soon as possible to the user. To get its objectives the system

CITY HUB NEWS

Bengaluru Edition

ENGINEERING Students INVENTED–MULTI ROBOT for HOSPITALS SERVICE

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 inpatient and also to the attender 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.

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SAPTHAGIRI COLLEGE OF ENGINEERING
Department of Information Science and Engineering
EVEN SEMESTER TIME-TABLE with effect from 01/02/2019

Department/Branch	ISE	Semester : 6	Section : A
Academic Year	2018-19	Room No.	CLH- 305
Class Teacher	GAYATHRI R		

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BREAK	1	2	BREAK	3	4	BREAK	5	6	7
TIME	8:30am - 9:30am	9:30 am - 10:30 am	10:30 - 10:50	10:50am - 11:50am	11:50am - 12:50pm	12:50 - 01:45 pm	01:45 pm - 02:40 pm	02:40 pm - 03:35 pm	03:35 pm - 04:30 pm
DAY									
MON	15IS63	15IS62		15CS64	15CS653	Lunch Break	EDUSAT	FORUM ACTIVITY	
TUE	15CS64	15CS653		15CS664	15IS62		TUTORIAL	TUTORIAL	TUTORIAL
WED	15CS664	15IS63		15IS62	15CS61		← 15ISL67(A1)/ 15ISL68(A2) →		
THU	← 15ISL67(A2)/ 15ISL68(A3) →				15CS64		15CS61	15IS62	15IS63
FRI	15CS61	15IS63		15CS664	15CS653		← 15ISL67(A3)/ 15ISL68(A1) →		
SAT	15CS664	15CS653		15CS61	15CS64				

extra hours in time table

Subjects Allocation

Subject Code	Subject Title	Faculty Name	Faculty Code
15CS61	Cryptography, Network Security and Cyber Law	SowmyaSomanath	SS
15IS62	File Structures	Ambika S	AS
15IS63	Software Testing	Gayathri R	GR
15CS64	Operating Systems	Chaithra B M	CBM
15CS653	Operation Research	DivyaShree G	DG
15CS664	Python Application Programming	Praneetha G N	PGN
15ISL67	Software Testing Laboratory	Gayathri R	GR
15ISL68	File Structures Laboratory with Mini Project	Ambika S	AS

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