

CIVIL INFO
December & January



VOLUME-VI
ISSUE - IV

EDITORIAL FACULTY

Ms K Srimukha ASST. PROF.

DESIGN TEAM

P.N. Unnath Kumar III year.

D. Naresh Varma III Year.

V. Giridhar III Year.

P. Vivek II Year.

Dhanush-2K19

As per the culture of Dhanekula Institute of Engineering and Technology every academic year the college organizes National level Techno-Cultural Symposium for the aspirants assembling from various engineering colleges with a very high competitive spirit to participant and with the strong determination to include their achievements & accomplishments to their resumes. This year college organized Dhanush 2K19 on 20th and 21st December.

These fests are organized every year with the objective to provide platform for the students to showcase their talent with a competitive spirit. The event was successful enough to attract as many as 92 registrations from Civil Department. Students are actively participated in all the events and presented their work.

The fest executed with a total 7 events planned and organized at its best of quality. Focusing on the types of events to include in the fest was decided by fest coordinators keeping the interest and need of the engineering student into consideration, with little emphasis on the fun full events behind the scene. The events like Paper Presentation, Tech Trix, Theme Ballet, Spot Model Making, Technical Quiz, Tech Thought and CAD Expertise were equally planned, executed and have managed to gather maximum response.

As far as Paper Presentation event is into consideration the registrations were done in advance as the paper scrutiny needed to be done and to give opportunity to present best innovative idea submitted during the fest days. Apart from these many fun events like gaming, etc. were also organized. The winners were encouraged with a cash prizes for all the events. Department feels proud to organize such a successful event and





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Department of youth Services Government of Andhra Pradesh celebrated National Youth Day on 12th January by conducting various competitions like Essay Writing, Elocution, Debate, Drama/Skits and Quiz Competitions.



Final year students (G Sai Krishna Reddy, B Chandukumar, B Venkat Krishna, Ch Rajesh, Ch Prakhya, D Pravallika, Ch Anulatha and Ch Yamini) had won first prize in Quiz.



Second and Third year students (B. Naga Usha Sree , B.Niharika, Md.Naveed Ahmed) had won Second prize in Skit.

DhaneKula Samskruthi conducted kite flying and traditional walk competitions in the view of Makara Sankranthi at the Institute Level. Total 35 students participated in kite flying and 2 members in traditional walk. In kite flying two Students, Ch.Bhargav Kumar (188T1A0110) and B.Varun Teja (188T1A0104) from Civil Department won the 2nd Prize in the institute level and in traditional walk one student, G.Pavanisitha (188T1A0113) had won 1st Prize in the institute level .



In association with Youth Forum, DhaneKula Samskruthi conducted Group Discussion and the topic was Children's Rights. The competition is conducted in the department level from 2nd to 7th December 2019 for all the II, III and IV B.Tech Students by Mrs. M.Vineela (Art, Literary and Cultural Cell Committee member). Total 25 members participated in the department level, out of 25 members 10 members were selected for the final competition at the Institute level.



Technical Topics



SUSTAINABLE DEVELOPMENT THROUGH FUNCTIONALLY GRADED MATERIALS

INTRODUCTION

The lightest weight composite materials with high strength/weight and stiffness/weight ratios have been used successfully in industries and other engineering applications. However, the traditional composite material is not successful when used under high-temperature environments, as there occur a reduction in strength of the metal in the high temperature. Recently, a new class of composite materials known as functionally graded materials (FGMs) has drawn considerable attention. In materials science functionally graded material may be characterized by the variation in composition and structure gradually over volume, resulting in corresponding changes in the properties of the material. Within FGMs the different microstructural phases have different functions, and the overall FGMs attain the microstructural status from their property gradation.

Functionally graded materials are graded property materials and are used as medical implants, for thermal protection of space vehicles, as a thermoelectric converter for energy conservation etc. Due to their versatility of behavior, they are now used as Nano, optoelectronic and thermoelectric materials also. Future applications demand materials having extraordinary mechanical, electronic and thermal properties which can sustain different environment conditions and are easily available at reasonable prices. The carbon nanotubes (CNT) reinforced functionally graded composite materials (FGCM) is expected to be the new generation material having a wide range of unexplored potential applications¹ in various technological areas such as aerospace, defense, energy, automobile, medicine, structural and chemical industry. They can be used as gas adsorbents, templates, actuators, catalyst supports, probes, chemical sensors, Nano pipes, Nanoreactors etc. Typical Solids Mechanics equations assume the use homogeneous materials have uniform properties. Significant research is being done² by Industry, Universities, and Federal Agencies to take more FGMs to the marketplace. An example of FGM is shown in figure-1, where spherical or nearly spherical particles are engraved within an isotropic matrix.

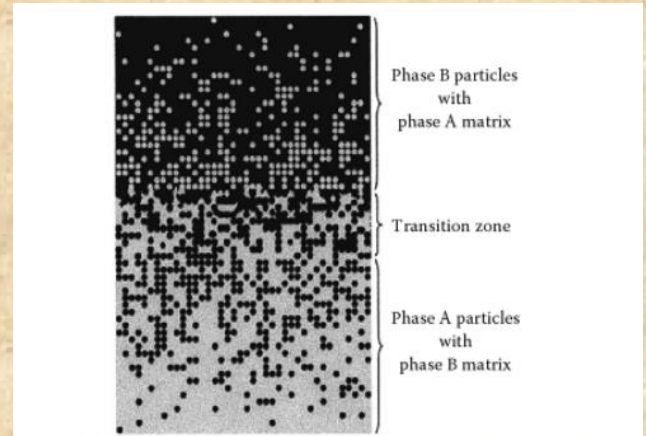


Fig.-1: An FGM with volume fractions of constituent phases graded in the vertical direction.

FUNCTIONALLY GRADED MATERIALS

Functionally Graded Materials The structural unit of an FGM is referred to as an element or a material ingredient. It is a conceptual unit for constructing an FGM that includes various aspects of its chemical composition, physical state and geometrical configuration. Generally, there are two main types of FGMs i.e. continuous graded materials and discontinuously graded materials. In the simplest FGMs, two different material ingredients change gradually from one to the other as illustrated in figure-2a. In the second type, the material ingredients change in a discontinuous way such as the stepwise gradation illustrated in figure-2b. A material can be considered to be an FGM even if the gradation of the material ingredients is limited to a specific location in the material³ such as the interface, a joint, or a surface. As long as the material incorporates the FGM concept it can be categorized as an FGM.

Therefore, an FGM can be produced from a homogeneous material and then processed with a different condition such as heat treatment and deformation.

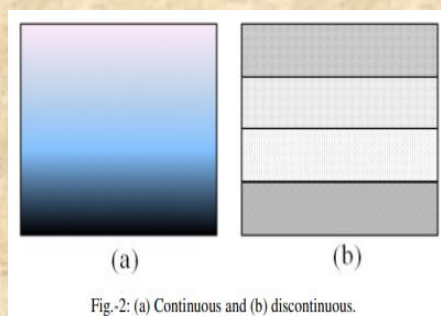


Fig.-2: (a) Continuous and (b) discontinuous.

HEMPCRETE BLOCKS

Hempcrete or Hemplime is bio-composite material, a mixture of hemp hurds (shives) and lime (possibly including natural hydraulic lime, sand, or pozzolans) which is used as a material for construction and insulation. It is marketed under names like Hempcrete, Canobiote, Canosmose, and Isochanvre.



Hempcrete is easier to work with than traditional lime mixes and acts as an insulator and moisture regulator. It lacks the brittleness of concrete and consequently does not need expansion joints. The result is a lightweight insulating material ideal for most climates as it combines insulation and thermal mass.



Production of Hempcrete Blocks

The production process is divided into three simple steps



1- Mixing

The raw materials (hemp shives, lime-based binder and water) of hempcrete are proportionately dosed and mixed together.

2- Moulding

Hempcrete obtained is poured in the blocks of widths between 6 and 30 cm in a special press.

3- Open-air Curing

After a while, the frail blocks of hempcrete are placed on an automatic conveyor belt which takes them to a storage area for open air-drying. This brings strength and hardness to the blocks. Depending on the width of blocks, it takes around 6-10 weeks for the blocks to become ready to use.

Applications of Hempcrete Blocks

- 1- As external and internal wall insulation
- 2- As floors and roof Insulation
- 3- Underneath floors
- 4- As Plasters
- 5- New Builds
- 6- For Insulating older buildings
- 7- Renovation

By
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Assistant Professor



NSS

SERVICE TO THE NATION



PLASTIC AWARENESS & SOIL CONSERVATION



As a part of NSS SPECIAL CAMP, DHANEKULA NSS UNIT have organized a Door-to-Door campaign on 02.01.2020 about “PLASTIC AWARENESS” and “SOIL CONSERVATION in Madduru Village. Around 50 Volunteers have participated in this awareness campaign.

Volunteers have educated the people in the village about the harmful effects of plastic on Health, Environment, Wildlife and urged them to avoid single use plastic. They have also asked the people to use Jute or Cloth bags in place of plastic. On the same day, Volunteers also explained about the importance of soil fertility and enlightened the farmers of the village about the different ways of improving it. Also the harmful effects of chemical pesticides and insecticides on soil and health are explained in detail by the volunteers to the farmers.



HEALTH AND FAMILY WELFARE & AIDS AWARENESS

As a part of NSS SPECIAL CAMP, DHANEKULA NSS UNIT have organized a Door-to-Door campaign on 03.01.2020 about “HEALTH & FAMILY WELFARE” and “AIDS AWARENESS in Madduru Village. Around 50 Volunteers have participated in this awareness campaign.

Volunteers have educated the people about the benefits of taking healthy diet, exercising and keeping premises clean. They also conveyed that only with clean surroundings we can avoid large number of diseases. The volunteers have also mentioned about various causes of common diseases and how to treat them with household remedies. On the same day, volunteers have also tried to bring awareness among the villagers about AIDS disease and explained about the precautions that everyone must take.



“POPULATION EDUCATION & WOMEN’S RIGHTS”



As a part of NSS SPECIAL CAMP, DHANEKULA NSS UNIT have organized a Door-to-Door campaign on 04.01.2020 “POPULATION EDUCATION” and “WOMEN’S RIGHTS” in Madduru Village. Around 50 Volunteers have participated in this awareness campaign.

Volunteers enlightened the people of the village about the current population situation of the country and how it is affecting the progress of the nation and thereby individual. The limited resources of earth and their exploitation by these masses have also been told and conveyed the seriousness of controlling population.

On the same day, volunteers have also taken part in educating the women in the village about the basic fundamental constitutional rights of women and how they can utilize them. The rights regarding women safety were focused by the volunteers since that is the major issue right now in the current society in the form of eve teasing, domestic violence etc.

LITERACY AWARENESS



DHANEKULA NSS UNIT have organized a Door-to-Door campaign on 05.01.2020 “LITERACY AWARENESS” in Madduru Village. Around 50 Volunteers have participated in this awareness campaign.

The volunteers have urged the people of the village about the importance of ability to Read and Write. The different ways in which fraudsters cheat illiterates and how misinformation / fake news from others can be avoided were explained.



SCHOOL DROPOUTS

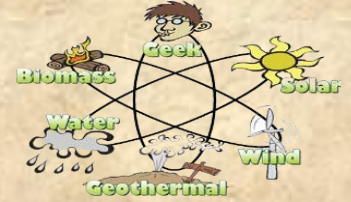
As a part of NSS SPECIAL CAMP, DHANEKULA NSS UNIT have organized a seminar on 06.01.2020 “LITERACY AWARENESS” in Z.P. High School in Madduru Village. Around 50 Volunteers have participated in program.

Volunteers have demonstrated the students of the school about the importance of education in the current era and its significance. The different career prospects with their responsibilities and advantages were thoroughly explained to the young minds, which encouraged the students to understand the benefits of education. Volunteers have also interacted with the students individually and gave them valuable suggestions and advice related to education

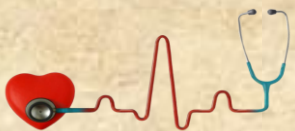




“PLANTATION OF TREES & USE OF NON CONVENTIONAL ENERGY



DHANEKULA NSS UNIT have organized “TREE PLANTATION” and a awareness program on 07.01.2020 “USE OF NON CONVENTIONAL ENERGY” in Madduru Village. Around 50 Volunteers have participated in this campaign. The villagers were explained about the different health and environmental issues of using non conventional energy sources wood, coal, kerosene and petrol. The villagers were are also urged not to burn their crop leftovers. The different benefits of alternate clean energy sources like solar and wind were explained by the volunteers to the people of the village. On the same day, the volunteers have distributed and planted various trees throughout the village signifying the importance of trees for our health and environment.



FREE MEDICAL CAMP

DHANEKULA NSS UNIT have organized a “FREE MEDICAL CAMP” on 10.01.2020 in collaboration with doctors from Dr. Pinnamaneni Siddhartha Medical College in Madduru Village. Around 50 Volunteers have participated in this camp.

A total of 108 villagers have benefited by the medical camp where they received free consultation for various diseases like heart, lungs, knee, sugar, blood pressure and eyes etc. Volunteers played a major role in spreading the news of free medical camp throughout the village and also guided and helped the aged during consultation. Volunteers solely have taken the responsibility and succeeded in conducting the camp smoothly. The doctors were later honored for their self-less service with mementos.





“National Girl Child Day Celebrations”

On the eve of National Girl Child Day with the theme of “Beti Bachao Beti Padhao” on 24th JAN 2020, College NSS unit honored 16 girl volunteers with certificates who have participated actively in various NSS events to bring a positive change in the society including creating awareness in adopted villages about girl child education in the special camp organized from 03-01-2020 to 10-01-2020. The session was conducted at ECE Seminar Hall and was presided by Dr. Ravi Kadiyala, principal of the institution.



About 100 Student volunteers with NSS Program officer and staff coordinators have participated in this and made the session fruitful. Students talked about the achievements and the capabilities of girls in current society citing various examples, and also discussed how girls play a crucial role in shaping the society

One Day Conference on “Drug De-Addiction”



The National Institute of Social Defense Ministry of Social Justice and Empowerment, Government of India have sponsored a One Day conference on “Drug De-Addiction” in LBRCE College, Mylavaram. Two volunteers of Dhanekula NSS Unit have attended the conference and gained immense knowledge about the harmful effects of Drugs and the different ways in which the addicted can be treated. The volunteers have expressed that the conference was the useful, due to the increase in use of drugs by the youth in the country. They thanked the Ministry in sponsoring such conferences and urged them to put on more related programs in the future.



On the occasion of 71st Republic Day celebrations held at JNTU Kakinada on 26th January 2020, about 10 volunteers from the college NSS unit took part in the celebrations. The volunteers have participated in the Republic Day parade along with other institutions and received participation certificates.



Industrial Visit



All the Third year students visited **K.C.P. SUGAR & INDUSTRIES CORPORATION LTD** on 12th December 2019. The company which is located in Vuyyuru Bypass Rd, Vuyyuru, Andhra Pradesh



Late Shri. Velagapudi Rama Krishna ICS, a top bureaucrat and civil servant had conceived the idea of promoting agro based industries, when he was director of industries, Madras state. By virtue of his position as director of industries, he had exposure to the industrial sector which prompted him to take over the sugar Factory in 1941 at Vuyyuru which was not doing well. The sugar factory was of 600 TCD and it was christened as The K C P Sugar And Industries Corporation Ltd. He was a source of inspiration to many entrepreneurs to setup sugar industries in Andhra Pradesh. Some of them are Andhra Sugars, Sarwaraya Sugars and Deccan Sugars.

K.C.P Sugar and Industries Corporation Ltd is one among the leading sugar manufacturing companies in India . Its allied business consists of manufacturing and marketing of Rectified Spirit, Extra Neutral Alcohol, Ethanol, Incidental Cogeneration of Power, Organic Manure, Mycorrhiza Vam, Calcium Lactate and CO₂. Company has two sugar factories located in Krishna District Andra Pradesh having an aggregate crushing capacity of 11,500 tons per day

KCP Sugars and Industries Corporation is engaged in continuous search of competitive edge over environmental concerns such as Water contamination and air pollution due to both fugitive and stack dust emissions, and green house gases. The effluent is treated in ETP (Effluent Treatment Plant). Raw material shed and net cover on the storage bin to control fugitive test emission.

By this industrial visit they gained knowledge on production process, conservation of water, control of dust and air pollution.





Semester Toppers



IV-I SEM TOPPERS AY 2019-20

First

Second

D PRAVALLIKA
168T1A0118
SGPA : 8.55



PANUSHA
178T5A0124
SGPA : 8.36

III-I SEM TOPPERS AY 2019-20

First

Second



B NIHARIKA
178T1A0105
SGPA : 8.71



P THANUSHA
178T1A0146
SGPA : 8.71



P JYOTSNA
178T1A0150
SGPA : 8.71



M R S DEEPESH
178T1A0134
SGPA : 8.43

II-I SEM TOPPERS AY 2019-20

First

Second

K HEMANJALI
188T1A0115
SGPA : 8.12



K SASIDHAR
198T5A0112
SGPA : 8.12



R MANOJ
188T1A0137
SGPA : 7.68

A 2 Day National Level Techno- cultural Symposium was held in Usha Rama College on 3rd and 4th January 2020. One of our student from III year T.SIVA RAMA KRISHNA (1885A0146) had won 2nd prize in Clay moulding.

