ECO-FRIENDLY CAMPUS & GREEN INITIATIVES

Various environment friendly factors such as Water, Air & Noise, Land, Parking, Flora & Fauna, Socio Economic, Solid Waste Treatment, Solar Systems contribute in making an eco-friendly campus

We at the Sri Siddhartha Academy of Higher Education (Deemed to be University u/s 3 of the UGC Act, 1956), Tumkur, Karnataka are taking care of all these abovementioned factors in the following ways:

i) Water

a) Water requirement: The total water requirement for the University is 488 KLD. Water quality of ground as well as surface resources in the area has been studied for assessing the water environment. Quality of water supplied by Heggere Grama Panchyat in the area is potable. Rain Water Harvesting has been provided for recharging the aquifer to compensate withdrawal to some extent.

b) Waste Water Generation: About 268 m3/day of wastewater is being generated. Sewage Treatment Plant of 300 KLD has been installed. The treated water is being used for plantation within the premises.

SEWAGE TREATMENT PLANT

Sewage treatment plant installed in campus is fully functional. Sewage generated by residential establishment, which include household waste, liquid from toilets, bath showers, kitchen & sink flows into it. It caters for treatment of sewage of entire population staying on campus. Treated water from it, is being used for watering of lawns, vegetable garden, cleaning and washing of roads, vehicles etc.

ii) Air Emissions and Noise Levels: The University has installed noise free generators for power backup. No other point source of emissions like boiler, furnace etc. to run on fossil fuels, have been provided. So, the University does not generate Air & Noise Pollution.

iii) Land: The land under the project is designated for Educational activities as per Karnataka Government. No additional burden on land has been created which may adversely affect land use pattern in the area. No natural drain is being obstructed. The University land does not interfere with any forest, wetland, river, lake, mountain, national park & sanctuary etc.

iv) Traffic Density: The students are not allowed to keep their own vehicles in the hostel. The University has its own buses for local students. The layout has been planned to provide adequate space for parking within the campus.

v) Ecology & Bio-Diversity

Flora: Apart from records of Forest Department, field surveys were undertaken to study the vegetation and floral components in 10 km radius area. The main species of trees found in the area are Kikar (Acacia Arabic), Neem (Azardirachtaindica), Peepal (Ficusreligiosa) and Bargad (Ficusbengalensis), Among the species which have been introduced recently includes Mango, Khair, Safedsiris, Kala siris, Amaltas, Jamun, Arjun Bahera and Zizyphus which are commonly grown in the area. Most of these trees are planted on the University Campus. Apart from these Van Mahotsav (Tree Plantation) is celebrated every year in the Campus in the way of conducting Green Gradation and Green Initiatives.








Green Initiatives & Innovation on Eco-Friendly Campus

- Over 45% of the Campus under Green Cover
- Patches of Original Forest Cover
- Collection of Local Flora
- Gardens, Live Hedges, Potted Plants

Fauna: Prolific wild life is not observed in the University campus, as there is no thick forest/vegetation. Lizards, snakes, hare, pigeon, mongoose and peacock are noticed in the University Campus.

Bird Nesting Boxes, Water for Birds and Animals On-Campus & Off Campus

vi) Socio-Economic: The University is working on positive note for the benefit of the society at large. It not only provides employment to local people but it provides better quality of health education, Technical education and improved infrastructure facilities, environment friendly campus and better recreational facilities. A change has been observed in social behavior of nearby areas due to activities like rainwater harvesting, recycling of sewage, use of solar lights etc. Provision of clean environment with proper handling of wastes like sewage and solid wastes hinder pathways of pathogen transmission from waste to man i.e. flies, mosquitoes, rodents, and stray dogs and thus improves the health of the residents of nearby area.

vii) Solid Waste Treatment: The solid waste generated from the University campus is effectively recycled within the project. The solid waste generated in the constituent colleges will be mostly waste papers, answer sheets and domestic waste like kitchen waste. The University makes necessary arrangements for disposal of solid waste. Kitchen waste is taken care by Vermi composting and the waste paper has been recycled. Recycling has helped better the environment by reusing rather than building up waste. We have installed recycling plant at university, with the aim to recycle waste paper and converted into new papers, file covers, sheet, noting pad etc. The details about vermin composting and paper recycling plant is given as under

Bioremediation @ University Campus

Composting is controlled process of decomposition used to transform organic material such as kitchen scrap into humus, which is a dark, soil like substance. Vermi composting is simply composting with earthworm and best kind to use are red worms as these make indoor composting feasible and are very efficient to process organic waste. In the picture vermin compost is seen where kitchen waste like vegetable cutting etc are used thus resulting in effective and useful waste management. Sprawling lawns and blooming flowers planted in the campus is testimony to use of organic manure generated.

Segregation of Bio-Medical waste @ Sri Siddhartha Medical College & Hospital & Sri Siddhartha Dental College & Hospital

- Segregation of Bio Medical Waste
- Efficient Disposal of Biohazard Waste
- Vermibins to convert waste into Compost

viii) Solar System: There are many solar – powered products and technologies utilizing the sun energy. One of the major is solar hot water for residential or commercial purpose, the use of sun's heat to warm potable water supply instead of electricity is very efficient method and truly cost effective. Array of solar panels installed on rooftop of hostel buildings can be seen in the pictures above. It is part of solar system to provide hot water and is one of the major alternate sources of energy, which results in saving electricity a scarce resource in our country. There are 29 solar systems that supply hot water for Hospital building, Hostels, and administrative staffs Quarters staying on campus round the year.

Aerial Photos - Vyoma Aerospace


OPD BLOCK


ಹೊರ ರೋಗಿಗಳ ವಿಭಾಗ
OPD BLOCK

Roof Top Rain Water: A roof top rain water is collected to minimize the withdrawal from ground water and is used for ground water recharge.

ix) Lake Rejuvenation Project; Permission letter from the Government of Karnataka , to take up the Marallur Tank (Tumakuru) rejuvenation

ಕರ್ನಾಟಕ ಸರ್ಕಾರ

ಸಂಖ್ಯೆಸನೀಇ 41 ಮಸಾವಿ 2019

ಕರ್ನಾಟಕ ಸರ್ಕಾರದ ಸಚಿವಾಲಯ
ವಿಕಾಸಸೌಧ, 2ನೇ ಮಹಡಿ
ಬೆಂಗಳೂರು, ದಿನಾಂಕ:20.03.2019.

ಇಂದ:

ಸರ್ಕಾರದ ಕಾರ್ಯದರ್ಶಿಗಳು
ಸಣ್ಣ ನೀರಾವರಿ ಮತ್ತು ಅಂತರ್ಜಲ ಅಭಿವೃದ್ಧಿ ಇಲಾಖೆ,
ವಿಕಾಸ ಸೌಧ,
ಬೆಂಗಳೂರು.

ಇವರಿಗೆ:

ಉಪ ಕುಲಪತಿ
ಶ್ರೀ ಸಿದ್ಧಾರ್ಥ ಅಕಾಡೆಮಿ ಆಫ್ ಹೈಯರ್ ಎಜುಕೇಷನ್
ತುಮಕೂರು 572 107.

ಮಾನ್ಯರೆ,

ವಿಷಯ: Permission to take up the Maralluru tank (Tumakuru) rejuvenation during the NSS Nation Integration Camp.

ಉಲ್ಲೇಖ: ತಮ್ಮ ಪತ್ರ ದಿನಾಂಕ:14.03.2019.

ಮೇಲ್ಕಂಡ ವಿಷಯಕ್ಕೆ ಸಂಬಂಧಿಸಿದಂತೆ, ದಿನಾಂಕ:14.03.2019ರ ತಮ್ಮ ಪತ್ರದತ್ತ ಗಮನ ಸೆಳೆಯುತ್ತಾ, ತುಮಕೂರು ಬೈಪಾಸ್ ರಸ್ತೆಯಲ್ಲಿರುವ ಮರಳೂರು ಅಮಾನಿ ಕೆರೆಯಲ್ಲಿ ನಿಯಮಾನುಸಾರ 10X10X8 ಅಡಿ ಅಳತೆಯ 5 ರಿಂದ 8 ನೀರಿನ ಗುಂಡಿಗಳನ್ನು ತೆಗೆದು ಮುಂದೆ ಕೆರೆ ಅಭಿವೃದ್ಧಿಯ ಬಗ್ಗೆ ಕ್ರಮ ವಹಿಸಲು ಅನುಕೂಲವಾಗುವಂತೆ ಯೋಜನೆ NSS Camp ನಡೆಸಲು ಮುಂದಿನ ಕ್ರಮ ಕೈಗೊಳ್ಳುವಂತೆ ತಮಗೆ ತಿಳಿಸಲು ಆದೇಶಿತನಾಗಿದ್ದೇನೆ.

ತಮ್ಮ ವಿಶ್ವಾಸಿ,

(ಪಿ.ಗೋವಿಂದರಾಜ್) 20.03.2019
ಸರ್ಕಾರದ ಉಪ ಕಾರ್ಯದರ್ಶಿ
ಸಣ್ಣ ನೀರಾವರಿ ಮತ್ತು ಅಂತರ್ಜಲ ಅಭಿವೃದ್ಧಿ ಇಲಾಖೆ.

20/3/19


JCB
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x). Radio Siddhartha FM 90.8 MHz, : The Community Radio Broadcasts Environmental Issues to the Public. The ideas generated through innovative activities and research will be connected to the society through empowerment programmes mainly women entrepreneurship development in the rural areas. New ideas emerging would be used to support the diversified economic opportunities of this region. Radio Siddhartha FM 90.8 MHz, the Community Radio of the constituent college (SSIT) has been very effective in reaching out of the larger section of the society through broadcasting innovative people oriented programmes on education, health sanitation, social life, economic opportunities, small business, women empowerment, handicrafts., etc.

RADIO SIDDHARTHA
90.8FM
Voice of Tumkur

xi). Innovation Engaging in Eco-Friendly Initiatives and Rural Education

Pvt varsity replaces bouquets with khadi towels

ENS@ Bengaluru

WHILE welcoming dignitaries with a bouquet is a common practice, Sri Siddhartha University in Tumakuru has replaced bouquets with 'Khadi hand towels'.

The first occasion when this came into effect was during the National and State National Service Scheme coordinators visit to the campus on Friday, where they were welcomed with khadi hand towels.

Speaking to *Express*, Dr Balakrishna Shetty Vice-chancellor, said, "A month ago, a friend said that the bouquets he had received during his 70th birthday were almost a truck full. This set me thinking. I wondered if we could stop the bouquet culture at our campus and placed a proposal before the governing body regarding this and they agreed for it." "During the event we saw the dignitaries using the hand towels. If we had given them bouquets, most of them would have left them behind. Usually most of the bouquets will become trash after a few hours or days. Our intention is we should not create unnecessary garbage," said Dr Shetty.

Henceforth, at any event within the campus or outside, dignitaries will be welcomed only with khadi towels, Shetty added.

xii). University Officers visited to Yathinahalli Grama Panchayat and Rural School during Rural Empowerment

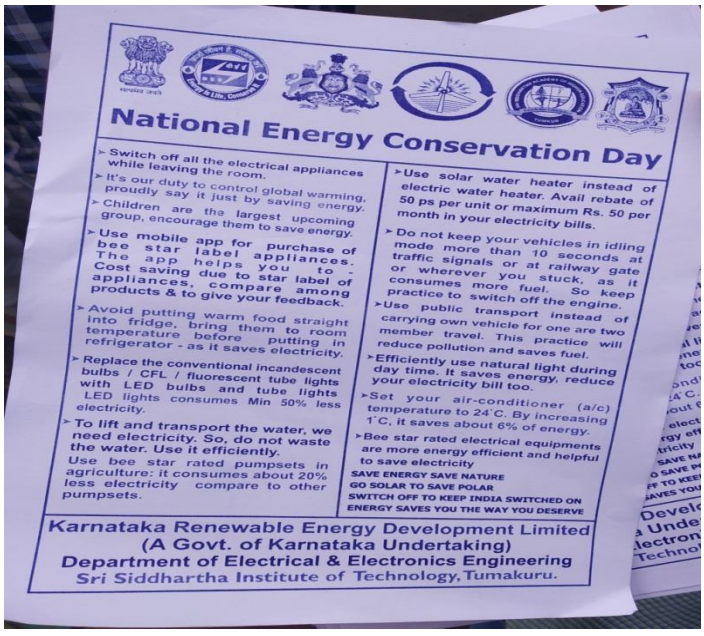
Electrical, Electronic components and computer parts awareness programme:

The high school students in rural areas will be studying science subject as a part of the curriculum but they not seen any electrical and electronic components. NSS volunteers will demonstrate the working of Ammeter,voltmeter,rheostat,multimeter, diode,triodeetc.All rural high school students have seen the computers and they have not seen the parts of a computer. The parts of a computer will be demonstrated to the high school students.

Computer Education through Laptop:

NSS volunteers will explain how computers have evolved, parts of a computer, types of computer, importance of computers in daily life. They will give the demo on various computer softwares like MS word, Excel ,PPT, Paint brush and parts of a computer. Then there will be hands on experience where in school students will be given training on how to operate the laptop, various softwares and internet.

Energy Conservation



- Solar Panels for Light and Fans, Water Heating
- Use of LED Lamps
- Timely Switching Off Lights, Fans, and Instruments
- Biogas for Cooking

Environment Management Plan

The University has designed an Environment Management Plan (E.M.P) in to mitigate the possible adverse effect of various activities on existing environmental factors, during construction as well as in operational stages, to avoid their deterioration, if any. As a social and moral obligation on the part of every body it becomes our bounden duty to leave our environment at least in a state what we inherited from our ancestors for the next generation, if notin a better condition.

E.M.P. for the University has been prepared keeping in view the existing conditions and likely changes, which may occur in due course of time. The implementation and monitoring of different control measures have also been covered, which are as under:

i) Air Environment:

- In the University, during construction in any stage water will be sprinkled on the soil to avoid dust generation. The debris and unused construction malba will be removed immediately for recycling, if any, or for designated land fill.

- All vehicles for service activities at the University will be checked for vehicular emission. The agencies will be asked to keep them within prescribed limits. They will also be asked to maintain them properly.

- As discussed earlier there will be no other point source of Air pollution, which are noise free. Chimneys of suitable height have been provided to control the G.L.C. of PM2.5, PM10, SO2, & NOx levels. Extensive tree plantations have been resorted to for further improving the air environment in general and minimize noise levels.

ii) Water Environment:

- **Drinking Water:** Fresh water is drawn from Heggere Grama Panchyath water supply scheme and distributed up to user points through an Over Head Service Reservoir. This all is a closed system.

- **Waste Water:** Sewage Treatment Plant with tertiary level treatment has been provided. It is installed in a separate area surrounded by trees, thus removing any odor problem. Wastewater from the University is taken to S.T.P. through underground delivery system and treated to tertiary level. Treated water is used for tree plantation, landscaping, parks, irrigation etc within the compound.

iii) Land Environment:

- To avoid erosion of the top soil the development is planned in the shortest possible time and land-clearing activity is kept to the absolute minimum by working at the specific sites one by one where construction takes place so as to increase detention and infiltration.

- The activities that result in soil being laid bare are scheduled in such a manner that some type of vegetative cover appropriate to the site is established prior to onset of monsoons. Natural waterways/drainage pattern is maintained by providing culverts where needed.

- The fly ash based cement is being used for the construction purpose in the University. For the development works the use of wood is discouraged and preference is given to Mild Steel, Aluminum, Glass and Plastic etc.

- At present, the area under Institutional buildings is only 20% of the total area and the remaining area is under common services such as parks, roads, footpaths, green belt etc. The land used is thus so planned that there is minimum adverse impact.

v) Fire Safety: The University has followed all the guidelines for fire safety as per relevant Codes. The campus falls in Fire Zone No.-1 i.e. having residential, educational, institutional, business and retail mercantile buildings. It does not involve high hazard buildings. The University has planned water storage for fire, and provided Fire Hydrants, at suitable locations in the campus.

vi) Green Belt:

- The main objective of the green belt is to provide a barrier between the source of pollution and the surrounding areas. Apart from improving the aesthetics, the green belt helps to capture the fugitive emission and to attenuate the noise generated.

- Development of green belt and other forms of greenery shall also prevent soil erosion and washing away of top soil besides helping in stabilizing the functional ecosystem. It further, makes the climate more conducive and restores water balance.

- While making choice of plant species for cultivation in green belts, weightage is given to the natural factor of bio-climate. It is also assured that the selected plants are grown as per normal horticultural (or forestry) practice and authorities responsible for plantation make sure that adequate provision for watering and protection of the saplings exists at the site.

- The landscaping and green belt has been designed and trees have been planted in open areas, around building boundary along footpaths and dividers especially along the roads on both sides. Over 45% of the Campus under Green Cover. More will be planted in due course of time.

Environment Monitoring Programme

Regular monitoring of all significant environmental parameters is essential to check the compliance status vis-à-vis the environmental laws and regulation. The objectives of the monitoring are as follows:

- To study the trend of concentrated values of the parameters, which have been identified as critical and then planning the mitigating measures.

- To check and assess the efficacy of pollution control equipment.

- To ensure that any additional parameters, other than those identified above, do not turn critical in due course of time.

A comprehensive environmental monitoring program that has been prepared by the Environment Management Cell to check the following:

- Ambient Air quality.
- Ambient Noise Levels
- Vehicles for PUC (Pollution under Control)
- Groundwater quality
- Discharge from Sewage Treatment Plant