

INNOVATIONS AND BEST PRACTICES

Innovations introduced during this academic year which have created a positive impact on the functioning of the institution.

1. The college organized various workshops and Skill oriented programmes for motivating students to develop their abilities.
2. Faculty development programmes were conducted for the overall development of teaching and presentation skills.
3. Students projects were introduced in B.Sc. final year to develop their abilities and to inculcate research interest.

What are the initiatives taken by the college to make the campus eco-friendly?

The college is eco conscious and takes quite a number of initiatives to maintain an Eco –friendly campus.

The ensuing points bring forth the enterprising ideas of the college to preserve and conserve the environment.

Energy Conservation:

- Energy Saving Stickers with the following captions are posted in Every class room by the Energy Saving Club
 - SAVE ENERGY EAVE EARTH
 - SAVE WATER SAVE PLANET
 - PLANTS FOR PLANET
- Only Star rated ELECTRONIC appliances are installed in the college campus to ensure optimum consumption of electricity
- All computers are linked with TFT monitors only.
- Tungsten bulbs have been replaced with CFL or LED bulbs in the campus.

Water Harvesting

- Rain water harvesting system is installed in various parts o the college.
- All the taps were repaired and leakage was stopped.
- Waste water from RO plants is used for gardens.

Efforts for Carbon Neutrality

- All the buildings in the college campus including hostels are surrounded by avenue trees and lawns.
- Emission test certificates are mandatory for the vehicles in the campus.

- Smoking is strictly banned within the campus
- Vehicular movements are restricted inside the campus except a few important.
- Students clubs are involved in plantation programmes to increase the greenery.
- Student clubs also maintain a lush green lawns with avenue trees and flowering bushes to strive towards carbon neutrality.
- Car pooling is encouraged among faculty and students.

Plantation

Planting trees is an integral part of the activity of the Biodiversity club and NSS, NCC students of the college. Biodiversity club members maintain Herbal garden with more than 50 important medicinal plants and distribute medicinal and avenue plants to faculty and students during some occasions.

Herbal Garden



BEST PRACTICES

Give details of any two best practices which have contributed to better academic and administrative functioning of the College.

The Institution can proudly proclaim that it has more than two best practices; however the following two best practices have been chosen to show case the achievements of the college:

1. College Internal student clubs for the maintenance of Greenery and Eco-friendly

- activities
2. GPS mapping of important avenue plants of college

Best Practice 1:

1. Title: College internal Student Clubs Aims and Objectives

Name of the Club	Objectives
Energy saving Club	<ul style="list-style-type: none"> ➤ To ensure efecient and optional usage of Energy in all its forms and dimensions. ➤ Planning and preparation of activities for promoting Energy Conservation activities ➤ Implementation of Energy conservation strategies in the college campus and hostels ➤ Sensitization of staff and students about the importance of conservation of energy in all its forms and proper usage of energy ➤ Understanding interrelatedness of Energy, Environment and Resource utilization ➤ Active participation in all programmes conducted by ECM & TSREDCO ➤ To organize lectures on Energy conservation in schools and colleges.
Biodiversity Club	<p>The main objectives of establishing the Biodiversity Club include:</p> <ul style="list-style-type: none"> ➤ To Assess the local biodiversity of the college ➤ To conduct awareness programmes on biodiversity utilization and conservation. ➤ To provide environmental education and job opportunities for college students. ➤ To involve students in action based programmes related to preparation of Peoples Biodiversity Register etc. ➤ To study the impact of environmental pollution in college campus. ➤ To develop cost efective environment-friendly technologies to solve local problems ➤ To promote environmental awareness programmes by conducting seminars or workshops.

1. CONTEXT

- To involve students in various environmental related programmes as part of their co curricular and extracurricular activities.
- During interactions with students Teacher mentors observed that some students are very enthusiastic and ready to participate in various activities related to environment. Hence, to involve them and to promote environmental activities to focus on their abilities, clubs were formed.
- To provide common platform for interested students of the respective field of interest.
- To provide an opportunity to interact with various environmentalists of Hyderabad working different aspects of environmental and Biodiversity related activities.

Challenges

- Forming clubs was a challenge as many students were shown interest and number was increased to more than 100.
- Screening for office bearers as many students applied for posts.
- Creating rules and procedures for appropriate implementation of club activities.
- Procuring financial resources to carry out activities of the student clubs.

2 The student clubs annually conduct a number of events and activities. Out of these some pinpointing activities are highlighted below:

Energy saving Club activities

		
National Energy Conservation Week celebrations - 17 th December, 2018	Essay writing and drawing competition on energy conservation week 17 th	

December, 2018



NCC students participation in seminar held on ***“E-Mobility: The Future”***, 20th December, 2018 at Institute of Engineers, Kairatabad, Hyderabad



Presentation of certificate of appreciation to Coordinator of ECC, Dr. D. PriyaKumari, Nizam College.



National Energy Conservation Week celebrations - 14-20th December, 2019-angoli competition.

Biodiversity Club activities



Plantation program in the Nizam college on 13-08-2019



Visited laboratory for the conservation of endangered species and zoological survey of India on 22-01-2020.



Visit to the lacoons CSIR Lab on 22-01-2020



Participation in Republic day parade January 26th 2020



Maintenance of Herbarium by student members



visit to Botanical survey of India, Hyderabad on 04-02-2020



Tribal art by student members on trees



visit to Botanical garden, Hyderabad on 19-02-2020



Installation of Idea box by student members

3 EVIDENCE OF SUCCESS

The convener of the respective clubs along with student members conduct activities which facilitates better understanding of the college environment and its maintenance. For Example:

- Student members are maintaining herbal garden with more than 50 important medicinal plants.
- Cultural festival and other events were organized by receiving ideas dropped in idea box by the students.
- Student members were visited various prestigious organizations or institutions and interacted with scientists and learned important aspects related to environment and their regular subject matters.
- National Energy Conservation Week celebrations were organized and awareness was brought among students.

4 Problems Encountered and Resources Required

- For organizing various events or field visits under student clubs the financial resources should be incurred by the college.
- Organizing such events require commitment of time on the part of students and faculties beyond their normal working hours.
- Coordinating and inviting experts from industry, University and other institutions.

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Best Practice 2:

2. Title: GPS mapping of avenue trees in college campus:

1. OBJECTIVES:

- To track the important trees distributed in the Nizam college with GPS devise.
- To map the tracked Avenue trees by using GPS software.
- To analyse the mapping studies to provide different scenarios that can aid in the landscape planning process.



GPS mapping of NEEM Trees



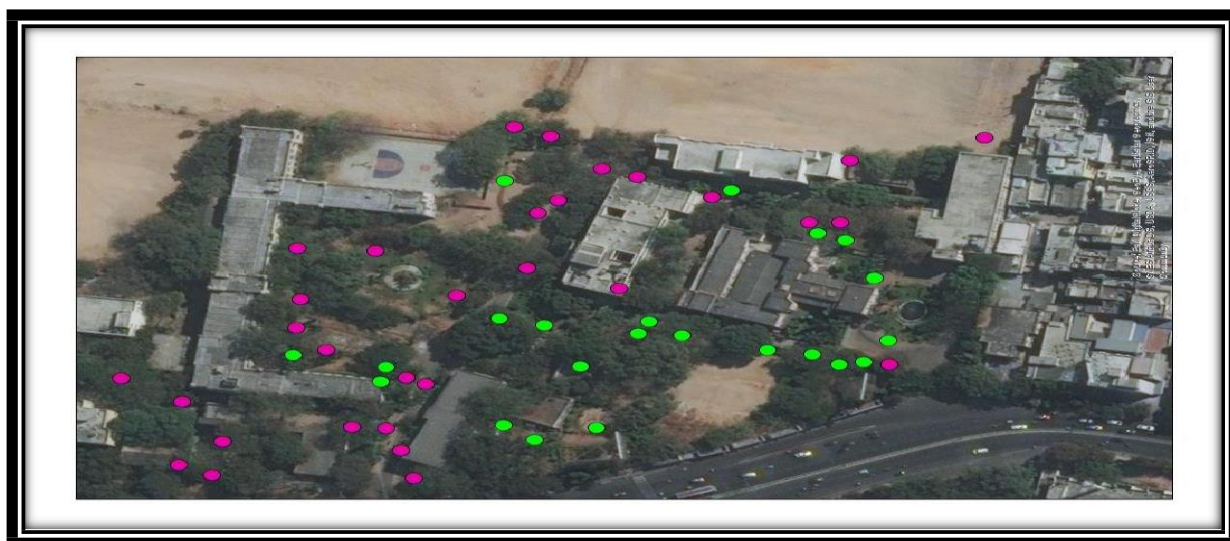
GPS mapping of Tamarind Trees



GPS Mapping of Pogada Trees



GPS Mapping of Ashoka Trees



GPS Mapping of Peltophorum and Dirisena Trees



GPS Mapping of Neem Trees



GPS Mapping of Terminalia Trees

The Context: Global Positioning System (GPS) is a space-based navigation system that uses a constellation of satellites to determine the location of the receiving unit on Earth. GPS satellites circle the globe in a precise orbit, transmitting coded radio signals; at least four of their signals can reach any given point on Earth at one time. These signals can pass through clouds, glass, and plastic; the signals weaken when passing through solid objects such as buildings and cannot pass through objects that contain high levels of metals. For land conservation purposes, it is important to note that a GPS unit will not receive satellite signals when under thick forest canopies, underground, or underwater.

GPS enables users to map the location of a wide variety of features in the field, such as mature forest, specimen trees, invasive species, soil erosion, fire-disturbed areas, riparian buffers, and waterways. Users can also map human-made features like trails, benches, buildings, roads, driveways, and fences. Once mapped, these features can be easily located with a GPS device on return visits to the property.

Linking Photos to GPS Coordinates

Users can take digital photos in the field and link them to GPS coordinates in the GIS database. This allows users to establish a visual record of important features and their precise

locations. By comparing photos of the same location taken at different times, users can notice changes to the property. (This can be particularly helpful for monitoring easements and identifying potential violations.)

The Practice:

The contextualization of the above is effected by the following practices:

- Inclusion of student's indigenous knowledge on the spatial context of avenue plants into a GIS environment ·
- Ensure student Participation in a GIS-based plant mapping process of avenue plantations
- Incorporate well-being ranking of college level plants information in the mapping process

Evidence of Success:

- B.Sc students opted GPS mapping as their project work and compiled the data of all avenue trees of the college.
- Important trees like Neem, Tamarind, Subabul, Albizia, Terminalia, Saraca, Peltophorum and Palm trees mapping was done and plotted on map by using GIS sotware.
- Distribution of these plants and their canopy studies are possible by analyzing the GPS maps.
- Total number and total distribution of these plants were recorded.

Problems Encountered and Resources Required:

1. Sustained motivation of students and faculty is always a challenge
2. Time constraint is a spoke in the wheel, in planning and execution of data specially during GIS maps assessment processes.
3. More generous seed money / financial assistance from the college for preliminary work are needed.
4. GPS devises and GIS software usage workshops to be conducted to train the students.
5. Coordination is required between various agencies like forest, Biodiversity and Plantation etc. to extend and exchange the data.