S.A.S. GOVERNMENT DEGREE COLLEGE
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FIELD VISIT TO RED SANDALWOOD CULTIVATION

OBJECTIVES :

Objectives of a field visit to a red sandalwood cultivation site typically include:

- To study the natural habitat , and soil conditions, and climate that support the growth of Pterocarpus santalinus
- To learn about the plantation techniques, spacing, irrigation, and care taken for the cultivation of red sandalwood trees
- To analyze the economic viability, including the costs involved in cultivation and the potential profits from the sale of red sandalwood
- To provide practical knowledge and firsthand experience to students or visitors about red sandalwood, which can be crucial for academics.

OUTCOMES :

- Students gain hands-on experience and practical knowledge about the cultivation process, soil requirements, and plantation management of red sandalwood.
- An understanding of the economic aspects, including the investment required, the profitability, and the market demand for red sandalwood.
- Increased awareness about the conservation status of red sandalwood and the importance of sustainable farming practices to prevent over-exploitation.

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BRIEF REPORT ON THE FIELD VISIT :

The Department of Botany, SAS Government Degree College, Narayanapuram, organized a field visit to the Red sandal Wood cultivation site in Gopinadhapatnam. 20 students under the guidance of faculty went to this field visit on 31—7-2023 to study the natural habitat, soil conditions, and climate that support the growth of Pterocarpus santalinus. The plantation is situated in an area characterized by red sandy loam soils, which are ideal for the growth and yield of red sandalwood. The trees grow to a height of 5-8 meters and have a dark grayish bark. The local farmers explained to us that the trees are fast-growing when young, reaching 6 meters tall in just 3 years even on degraded soils. Harvesting typically occurs after 14 years when the trees have reached optimal maturity for timber production.

A well-managed red sandalwood plantation can yield significant profits, i.e., 435 plants can potentially earn a profit of about 2,4 crores in 14 to 15 years. Students have collected some of the samples from the trees for further study of the anatomy of the leaf and herbarium samples. Students gain hands-on experience and practical knowledge about the cultivation process, soil requirements, and plantation management of red sandalwood.

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FIELD VISIT TO LIXIL INDIA SANITARYWARE PVT LTD AMBERPET

OBJECTIVES OF THE FIELD VISIT :

- To study the plantation in an industrial region.
- To study the effect of the green muffler scheme.
- To gain knowledge on the herbs, shrubs, and trees that can flourish well in an industrial zone.

EXPECTED OUTCOMES :

- Students gained knowledge of the flora surrounding the industries
- An understanding of the economic and aesthetic aspects obtained by the management and employees at the LIXIL India Sanitaryware due to high plantation initiative.
- Impact of Flora on the Industrial Surrounding.
- Gained Knowledge of the Green muffler technique.

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BRIEF REPORT ON THE FIELD VISIT :

The Department of Botany, SAS Government Degree College, Narayanapuram, organized a field visit to Lixil India Sanitaryware Pvt.Ltd, Amberpet with 20 students of B.Sc BZC. We reached the site at 11. am and students started observing the variety of species growing inside the industry surroundings. The company has grown different herbs, shrubs, and trees of medicinal, economic, and aesthetic importance.

Students observed the green muffler technique being implemented in the industry. The employees of the company who are responsible for maintaining the greenery inside the company have enlightened the students about the green initiatives of the company to maintain sustainability. A complete pond ecosystem is maintained inside the company which is a big asset for the aquatic flora. With this field visit, students have gained knowledge about the impact of flora on the industrial surroundings.

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FIELD VISIT TO ATAPAKA ECOSYSTEM

OBJECTIVES :

- To study the lake's flora.
- To understand the conservation measures in place to protect this Ramsar site of international importance.
- To educate students about the importance of wetland ecosystems and their role in biodiversity conservation.

EXPECTED OUTCOMES :

- Students gained knowledge on the Flora of Kolleru lake.
- Students gained the endangered plant species of Kolleru Lake.
- Morphological and ecological adaptations of plants in aquatic ecosystems.
- Students were enlightened about the soil types.
- Students gained knowledge on Ramsar sites.

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BRIEF REPORT ON THE FIELD VISIT :

The Department of Botany, SAS Government Degree College, Narayanapuram, organized a field visit to the Atapaka Ecosystem with 20 students of BZC on 6.07.2023. Faculty and students reached the Atapaka and Kolleru bird sanctuary by 11 am. Students started observing the plant genera in the terrestrial, ecotone, and aquatic ecosystems.

A wide Variation in the morphological adaptations of plants was observed. Under the guidance of Faculty endangered species were observed. This visit to a Ramsar site is very beneficial for the students to empower and enlighten them with the significance of conserving the wetlands. We reached the college by 5 pm.

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STUDY TOUR TO PB SIDDHARTHA COLLEGE OF ARTS & SCIENCE, VIJAYAWADA

OBJECTIVES :

- To promote interaction and knowledge sharing among students
- To know about the extensive learning resources available.
- To gain knowledge from the talks of faculty and students.
- To inculcate lateral thinking.

EXPECTED OUTCOMES :

- Students gained interaction and communication skills.
- They were enlightened about the extensive learning resources.
- They gained practical experience from the labs.
- Students gained knowledge about the various medicinal plant species .

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BRIEF REPORT ON THE FIELD VISIT :

The Department of Botany, SAS Government Degree College, Narayanapuram, organized a study tour of PB Siddhartha College of Arts and Science, Vijayawada

On 29.04.2023 with 16 students of II B.Sc BZC and faculty. We started from Narayanapuram at 7. am and reached college at 10. am. Students visited the Botany Lab, Medicinal Garden, and Botany Museum. Botany faculty enlightened the students on various genera of Algae, Bryophytes, Pteridophytes, Gymnosperms, Fossil plants, and endangered fruits.

Students also visited the library where they got to know about the various standard books in botany. students interacted with the students and faculty of PB Siddhartha College and exchanged their knowledge and ideas. We reached back to our college by 5. pm

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FIELD VISIT TO THE PADDY CROP ECOSYSTEM

OBJECTIVES :

- To study the Paddy crop ecosystem.
- To know about the *Oryza* species, its growth, fertilizer use, etc
- To gain knowledge about the morphology of *Oryza*.

EXPECTED OUTCOMES :

- Students learned about the Paddy crop ecosystem.
- Students gained knowledge on Oryza Species, Its growth factors, Fertilizers, Weeds, Pests etc.
- Students gained knowledge about the morphology and disease symptoms of the Oryza plant.

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BRIEF REPORT ON THE FIELD VISIT :

The Department of Botany, SAS Government Degree College, Narayanapuram, organized a field visit to Paddy Fields, Narayanapuram on 16.02.2023 with 16 students of BZC. We Started at 11 am. Students learned about the Paddy crop ecosystem. Paddy is widely grown in Narayanapuram. Many farmers grow Paddy in this region. *Oryza* species, its growth, fertilizer use, etc.

Students gain knowledge about the morphology of *Oryza*. Students interacted with the local farmers and learned about paddy cultivation, Problems faced by farmers, and mechanisms to deal with high temperatures, floods, and heavy rain. With this knowledge enlightment we reached college by 2 pm.

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FIELD VISIT TO MAREDUMILLI FOREST

OBJECTIVES :

- To study the Maredumilli forest type
- To analyze environmental, edaphic factors and biological factors.
- To identify flora and fauna and observe canopy and stratification.
- To understand the economic impact and forest conservation

OUTCOMES :

- Students gained knowledge of forest flora, canopy, and stratification.
- Students learned about the environmental, biological, and edaphic factors.
- They were enlightened about the economic importance and conservation of forests.

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BRIEF REPORT ON THE FIELD VISIT :

The Department of Botany, SAS Government Degree College, Narayanapuram, organized a field visit to the Maredumilli forest on 05.12.2022 with BZC students. we started from college at 7. am and reached the forest at 11. am. A wide variety of plant species were growing in that forest, and students started observing the plant species and tried to identify them.

A wide variety of lichens are present on the tree trunks. Vegetative characters and floral characters of various species were observed. Plant specimens were collected for Herbarium preparation. There is a waterfall inside the forest, so we visited the waterfall where a huge variety of Pteridophytes and Bryophytes are growing on the rocks near the waterfall.

After lunch, students spent some time walking in the forest enjoying the aesthetic value of the forest. We started for Kadiyam Nursery and reached there at 5.30 pm. Nursery management techniques, grafting, and layering fertilizer compositions were explained by the Nursery resource persons. Plants for plantation programs were bought by the faculty and students for planting at their houses. With this, we started for Narayanapuram.

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FIELD VISIT TO CORINGA MANGROVE FOREST

OBJECTIVES :

- To study the Flora of the Mangrove Ecosystem.
- To study the adaptations of plants to estuarine habitats.

OUTCOMES :

- Students gained knowledge of Mangrove species.
- They observed the Pneumatophores and ovoviviparous features of mangroves.

REPORT ON THE FIELD VISIT :

The Department of Botany, SAS Government Degree College, Narayanapuram, organized a field visit to Coringa Mangrove Forest on 24.02.2022 which is of high ecological importance. Mangroves of a special group of plants that grow in inter-tidal zones. They serve as nurseries for fish and homes for a variety of bird species.

We started our journey at 7 am and reached the coringa at 11 am. Students observed the specialized adaptations of mangrove trees. This visit gave the students a hands-on experience on mangrove adaptations. We left for Narayanapuram at 5 pm.

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FIELD VISIT TO KOLLERU SANCTUARY

OBJECTIVES :

- ♣ To study the adaptations of plants to aquatic habitats.
- ♣ To study the freshwater ecosystem.

OUTCOMES :

- ♣ Students gained knowledge of aquatic species.
- ♣ They observed the floating, free-floating, and rooted submerged plant species and their adaptations to their zones.

REPORT ON THE FIELD VISIT :

The Department of Botany, SAS Government Degree College, Narayanapuram, organized a field visit to the Kolleru lake with 12 students of BZC on 23.07.2021. Faculty and students reached the Kolleru lake and Sanctuary by 11 am. Students started observing the plant genera in the terrestrial, ecotone, and aquatic ecosystems. This freshwater lake has two types of ecosystems –

1. Open Water Ecosystem

2. Wetland Ecosystem

A wide Variation in the morphological adaptations of plants was observed. Under the guidance of Faculty endangered species were observed. This visit to a Ramsar site is very beneficial for the students to empower and enlighten them with the significance of conserving the wetlands. We reached the college by 5 pm.

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FIELD VISIT TO SCIENCE PARK

OBJECTIVES :

- To study and identify various wild and ornamental plants.
- To visualize the mechanisms of plant physiology and models of plant anatomy.
- To Study the usage of scientific equipment.

OUTCOMES :

- Students gained knowledge of plant physiology mechanisms.
- Students identified various ornamental plants and landscape designs.
- Students learned to use scientific equipment

BRIEF REPORT ON THE FIELD VISIT :

The Department of Botany, SAS Government Degree College, Narayanapuram, organized a field visit to Bala Yogi Science Park on 06.03.2021 with 12 students of BZC. We reached the Science Park at 11 am. The park has a wide variety of grasses and ornamental plants.

The Science Park has a beautiful land scape and contains Bonsai plants. Different types of Bonsai varieties were studied. Various mini-models for understanding various scientific mechanisms and working models were showcased efficiently. Students gained knowledge of various concepts.

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FIELD VISIT TO KOLLERU SANCTUARY

OBJECTIVES :

- ♣ To study the adaptations of plants to aquatic habitats.
- ♣ To study the freshwater ecosystem.
- ♣ To identify medicinally important plants.

OUTCOMES :

- ♣ Students gained knowledge of aquatic species.
- ♣ They observed the floating, free-floating, and rooted submerged plant species and their adaptations to their zones.
- ♣ Students attained knowledge on plants of medicinal value.

REPORT ON THE FIELD VISIT :

The Department of Botany, SAS Government Degree College, Narayanapuram, organized a field visit to the Kolleru lake with 18 students of BZC on 26.11.2019. Faculty and students reached the Kolleru Lake and Sanctuary by 11 am. Students started observing the plant genera in the terrestrial, ecotone, and aquatic ecosystems. This freshwater lake has two types of ecosystems –

1. Open Water Ecosystem

2. Wetland Ecosystem

The following plant species were found which are of high medicinal value :

1 Ipomea aquatic -Convolvulaceae -Thutukada

2 Nymphaea nouchali - Nymphaeace - Kaluva

3 Nelumbium species - Gentianaceae Nymphoides

4 Salvinia aurticulata - Salviniaceae -Pilli adugu

5 Alternanthera sessilis - Amaranthaceae - Ponnagantikoora

6 Typha angustata - Typhaceae - Jammu/Jammugaddi

7 Cyperus rotundus - Cyperaceae - Tunga gaddi

8 Scirpus cernuus - Cyperaceae - Fairy lights

9 Eclitpa alba - Asteraceae - Guntagalagara

10 Cynodon dactylon - Poaceae - Garika gaddi

A wide Variation in the morphological adaptations of plants was observed. Under the guidance of Faculty endangered species were observed. This visit to a Ramsar site is very beneficial for the students to empower and enlighten them with the significance of conserving the wetlands. We reached the college by 5 pm.

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FIELD VISIT TO UNGUTURU SOCIAL FOREST

OBJECTIVES :

- To study the plant species in Unguturu Social Forest
- To analyze environmental, edaphic factors and biological factors.
- To identify flora and fauna and observe canopy and stratification.
- To understand the economic impact and forest conservation

OUTCOMES :

- Students gained knowledge of forest flora, canopy, and stratification.
- Students learned about the environmental, biological, and edaphic factors.
- They were enlightened about the economic importance and conservation of forests.

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BRIEF REPORT ON THE FIELD VISIT

The Department of Botany, SAS Government Degree College, Narayanapuram, organized a field visit to the Unguturu Social forest on 26.08.2019 with 18 BZC students. we started from college at 10.30. am and reached the forest at 11. am. **Social forestry** offers an alternative form of forest management. It is an approach that balances the needs of local people with multiple external interests. A wide variety of plant species were growing in that forest, and students started observing the plant species and tried to identify them.

A wide variety of lichens are present on the tree trunks. Vegetative characters and floral characters of various species were observed. Plant specimens were collected for Herbarium preparation. There are many ponds maintained by the forest department to conserve rain water which aids in water supply for the forest during summer.

After lunch, students spent some time walking in the forest enjoying the aesthetic value of the forest. We reached college by 4.30 pm

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FIELD VISIT TO GOLLAGUDEN VERMICOMPOST

OBJECTIVES :

- To study the process of vermiculture.
- To analyze the features and nutrient value of vermicompost.

OUTCOMES :

- Students gained knowledge of the process of vermiculture.
- Students analyze the features of vermicompost

BRIEF REPORT ON THE FIELD VISIT :

The Department of Botany, SAS Government Degree College, Narayanapuram, organized a field visit to Gollagudem vermicompost on 10.01.2019 with 10 students of BZC.

Vermicomposting is a natural process whereby earthworms convert waste material with rigid structures into compost. The compost produced in this green process is traditionally and popularly used as a natural fertilizer for enhancing plant growth.

This process is mainly required to add nutrients to the soil. Compost is a natural fertilizer that allows an easy flow of water to the growing plants. The earthworms are mainly used in this process as they eat the organic matter and produce castings through their digestive systems.

The nutrients profile of vermicomposts are:

- 1.6 percent of Nitrogen.
- 0.7 percent of Phosphorus.
- 0.8 percent of Potassium.
- 0.5 per cent of Calcium.
- 0.2 per cent of Magnesium.

- 175 ppm of Iron.
- 96.5 ppm of Manganese.

This visit enriched the students with a complete hands-on experience with the process of vermicompost. Students gained the knowledge of financial requirements and challenges of maintaining vermicompost pits. This can help them in their way of becoming an entrepreneur. We reached the college by 4.pm

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FIELD VISIT TO KOLLERU SANCTUARY

OBJECTIVES :

- To study the adaptations of plants to aquatic habitats.
- To study the freshwater ecosystem.
- To identify medicinally important plants.

OUTCOMES :

- Students gained knowledge of aquatic species.
- They observed the floating, free-floating, and rooted submerged plant species and their adaptations to their zones.
- Students attained knowledge on plants of medicinal value.

REPORT ON THE FIELD VISIT :

The Department of Botany, SAS Government Degree College, Narayanapuram, organized a field visit to the Kolleru lake with 18 students of BZC on 10.01.2019. Faculty and students reached the Kolleru Lake and Sanctuary by 11 am. Students started observing the plant genera in the terrestrial, ecotone, and aquatic ecosystems. This freshwater lake has two types of ecosystems –1. Open Water Ecosystem2. Wetland Ecosystem

The following plant species were found which are of high medicinal value :

1.*Aerva lanata* - Kondapindiaaku - Amaranthaceae

2 *Andrographis paniculata* - Nela vemu- Acanthaceae

3 *Asystisia gangetica* - Poda beera - Acanthaceae

4 *Abrus precatorious* - Guruvinda - Fabaceae

5 *Achyranthes aspera*	-	Uttareni	-	Amaranthaceae
6 *Cassia occidentalis*	-	Kasintha	-	Caesalpinaceae

A wide Variation in the morphological adaptations of plants was observed. Under the guidance of Faculty endangered species were observed. This visit to a Ramsar site is very beneficial for the students to empower and enlighten them with the significance of conserving the wetlands. We reached the college by 5 pm.