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# D.A.V. COLLEGE

Sector 10, Chandigarh-160011

(A Premier Postgraduate Co-educational College Accredited With 'A' Grade By Naac)

## BEST PRACTICES

### PRACTICE I

**Title of the Practice: QR Coded Botanical Garden**

#### Concept of the Practice


The Botanical gardens designed to maintain diverse plant collections for display, research, and education are important venues for higher education. Today, they are underutilized, even though they remain essential components not only for sound education in botany, but also to provide environmental education to people and improve environmental awareness. Living plants and their identification are important tools in skill development programmes throughout the globe. Gardens offer many benefits with respect to teaching and enhancing such skills. Learning in botanical gardens also offers a pleasant respite from the hectic college campus and the aesthetic garden's environment is conducive to learning and creativity. The garden itself is perhaps the prime example of the human-nature relationship. Collaborative links between gardens and classrooms is the key to fully realizing the potential of gardens for higher education. A well-equipped garden echoing with the sentiments of today's digital age creates the ideal situation for botanical education. With a few online tools like QR codes, simple scanning devices, and a modest learning space, any botanical garden can become a valuable venue for teaching and learning.

**Objectives of the practice:** The induction of QR Codes in the botanical garden of the college campus is essential for the students to enhance their knowledge about flora. It enables them to know about the nomenclature of the plants just by a click. The following are the objectives of practice:

- Increasing Knowledge Gain
- Learning
- Identification of plants
- Conservation

**The Context/Challenging issues that needed to be addressed:**

- For an undergraduate student it is difficult to identify the trees and know their attributes without the help of any Botany expert.
- With the world seems to going digital, people lack time to read books and process the information they contain.

  
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**The Practice (Constraints):** Using the practice of QR codes has limitations due to technology issues. Their use largely depends on the availability and speed of the internet which often becomes a challenging issue in an isolated garden.

**Evidence of Success:** Botanical gardens are repository of living plants. The identification of these plants is a core area of Botany which not only familiarises with the flora but also helps in knowing about their importance. The Botany Department has taken the following initiatives by:

- Started Installation of QR Codes on trees and plants in the Botanical Garden of the college.
- Has also initiated the digitization of the flora of botanical garden and compiling in the form of an e book to be uploaded on the website of the college. The work is being carried out in association with the photography club of the college- PIXELS.

## The Practice (Uniqueness)

- This unique initiative would go a long way in learning about the plants. All the information about the plants can be gathered within fraction of second by just capturing the QR code in a smart phone camera. This will greatly benefit the students of Botany and others also those visiting the botanical garden of the campus. The click of QR code will guide the users to the Google search about the plant and all associated information. With the minimal investment, a team of faculty and volunteers has initiated the venture that could create a lasting educational feature that would extend the educational reach of facility and even serve as a self-guided tour of the botanical garden.
- The E book when compiled will be a great guide for the visitors on the college website.

  
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## PRACTICE II

### **Biodegradation of organic Waste: Responsibility towards sustainability of the environment**

**Concept of the practice:** The increasing environmental pollution has attracted focus worldwide. For the sustainability of the environment, various programs are being launched all over the world from time to time by the Government. If the youth is involved success can be achieved. Therefore it seems higher education can play a crucial role in the sustainable development of any nation. As environmental sustainability is becoming an increasingly important issue for the world, the higher education institutes can provide trained manpower and knowledgeable expertise to solve critical environmental problems. Colleges can act as a ladder toward the goal of sustainable development. In the teaching program, the framework of the curricula should cover the necessary information which can sensitize the students about burning environmental issues. The students should get acquainted with all the skills and information related to the environment. The curriculum should not only motivate the students to participate but also solve environmental problems. The best way to spread this awareness is through education. A well-designed environmental education system should include both theoretical as well as practical exposure to the sustainability of the environment and the reduction of pollutants that are posing threat to diversity on this planet.

**Objectives of the practice:** Education for environmental awareness is a must for the younger generation as they are the future of the nation and with innovative ideas, they would be able to find solutions for environmental issues. Moreover, it will enable them to make responsible decisions for the betterment of the environment. The following are the objectives of environmental education:

- Awareness
- Knowledge
- Attitudes
- Skills and Capacity Building
- Participation

**The Context/Challenging issues that needed to be addressed:** In India, challenges related to air pollution, waste management, scarcity of water, conservation of natural resources, and loss of biodiversity, amongst others have been increasing. Water availability, shortage of power, non-availability of land for garbage disposal, increase in the number of vehicles, non-effective controls on emissions, absence of water conservation schemes, and depletion of tree cover due to mushrooming commercial and

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housing complexes, add up to the complexities. Major Challenging issues that needed to be addressed are:

- Environmental Pollution.
- Noise pollution
- Global warming and Green House affects
- Population explosion and its affects
- Waste disposal. And its management
- Ocean acidification and aquatic pollution
- Loss of biodiversity.
- Deforestation.
- Ozone layer depletion.

**The Practice (Constraints):** To consider the environment in its totality (natural, artificial, technological, ecological, moral, aesthetic), it should be considered a continuous life process. It should be interdisciplinary in approach. To focus on the current, potential environmental situation, some of the constraints are economic conditions, customs, government regulations, availability of natural resources, etc. In spite of many initiatives, technological advances, growing demand for ACs, increase in traffic, noise pollution, deforestation, and the 'greenhouse' effect are constraints in environmental sustainability.

**Evidence of Success:** Environmental education is a process that allows individuals to explore environmental issues, engage in problem-solving, and take action to improve the environment. As a result, individuals develop a deeper understanding of environmental issues and have the skills to make informed and responsible decisions. Environmental education is one of the subjects in the curriculum in college. When students study environment and its functions, they develop a sense of understanding of the environment in the early stage of their life and it continues with them throughout their lives. It is important to increase the awareness of individuals about the environment. With the help of environmental education, students' knowledge about the environment is instilled into every country's citizens.

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The College has taken the following initiatives -

- Segregation of waste to dry and wet waste
- Rain Water Harvesting System
- Use of Tertiary water for watering college lawns and plants
- Vermicomposting unit to make organic fertilizer
- Botanical Garden for conserving plants of medicinal and economic importance
- Plantation and its maintenance by students.
- Separate dustbins for bio-gradable and non-biodegradable wastes generated in the college for proper segregation and disposal.
- Regular and frequent environment rallies to create Environmental Awareness.
- Leaf composting.
- Workshop on Renewable Energy Resources.
- Installation of Four large capacity Bio-composters for organic waste management from the Hostel Mess.
- Tree plantation drive and Tree Walk organized by Botany Department in association with Chandigarh tree lovers (citizens' initiative) and Eco club DAV College.
- Installation of Sanitary Pad Incinerators on campus and Demo workshops conducted for Students.
- Launch of plastic-free Chandigarh campaign.
- Anti-plastic awareness rally to reduce the use of plastic bags (below 50 microns ) and disposable one-time useable plastic items within the campus and in the adjacent marketplace.
- Cleanliness and Plastic waste collection drive at four locations in Chandigarh City (Off campus)
- Installation of solar lights to reduce carbon footprint in the environment.
- Installation of 100 Kilowatt Solar Plant in the Administration Block of the College for generation of electricity (renewable energy)

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## The Practice (Uniqueness)

- College has adopted a green campus as well as polythene-free campus approaches under Clean India, Green India. Success is visible in the form of solar lights, Rain Water Harvesting systems and solar water heaters which have been installed in the college hostel. The facility of solar electricity is also made available on the college campus. The college has a water reservoir with a capacity of 700 litres. All the waste of the college and the hostel is disposed-off in an appropriate manner to ensure environmental safety. Department of Botany and Eco-Club of the Collegiate very active and celebrates "Van - Mahotsava" every year with great zeal and gusto. The college campus has a comforting lush green environment. A number of villages in the periphery of Chandigarh have been adopted by the NSS Unit of the college for creating awareness regarding tree plantation, women empowerment, drug addiction, health and nutrition, sanitation and hygiene, etc.

- **Sustainable Development through "Swachh Bharat"**: Installation of separate metallic dustbins for proper waste segregation has been done in the whole college campus. Students have been time and again made more aware of the need for waste segregation through due practices like hosting cleanliness drives, lectures, posters, and showing relevant movies and documentaries, etc. A biological waste processing machine has been installed on the campus.

Bio-Composting of the organic waste generated in the Hostel for manure formation has also been started within the college campus. This not only helps in proper waste management but also provides good quality eco-friendly manure for the lush green lawns on the college campus. The total Turnover of compost produced is more than 5-quintals per month. To make the campus eco-friendly, the college maintains gardens like palm gardens, botanical gardens, etc. The institution, is trying utmost to enlighten students about the Conservation of the Environment, Management of Solid Waste, Indoor Environment, Global Environmental issues, Indian Laws on the Environment, Biodiversity, Noise and microbial pollution and Local Environmental issues. Seminars, discussions, and talks are regular features. It is through the process of environmental awareness that the students participate in the process of development without harming the ecological balance because they are aware of the consequences of environmental degradation. Environmental awareness changes the human attitude toward nature. It creates consciousness and a sense of responsibility towards the environment in society. The college wants its students not only to excel in academics but also to be enlightened and aware in order to help them in developing a cosmopolitan outlook. The college would like them to become responsible and mature citizens of this great country.

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