











## **CERTIFICATE**











#### RD & SH NATIONAL COLLEGE & SWA SCIENCE COLLEGE

Bandra, Mumbai

has successfully achieved the Green college Accreditation Standards, designed & defined by Green Mentors, & hereby Accredited as a

### **GREEN COLLEGE**

in Gold Ranking.

Virendra Rawat
Director, Green Mentors



Special Consultative Status with the Economic and Social Council of United Nations from 2021



GM/GA/2022/015/G1











# **ENVIRONMENT AUDIT 2022-25**













This is to certify that

#### **RD & SH NATIONAL COLLEGE & SWA SCIENCE COLLEGE**

Bandra, Mumbai

has achieved the global standards for environmental responsibility with academic accountability for the Universities during the Green College Audit - 2022-25.

This Certificate is issued on the bases of Green College Audit Report 2022-25





Special Consultative Status with the Economic and Social Council of United Nations from 2021

Virendra Rawat
Director, Green Mentors

GM/EA/2022/15/E

# **ENERGY AUDIT**

Academic Year 2022 - 2025



This is to certify that



Bandra, Mumbai

has achieved the energy uses standards for the learning spaces with least impact on environment during the Green College Audit - 2022-25.

This Certificate is issued on the bases of Green College Audit Report 2022-25



GREEN MENTORS

Special Consultative Status with the Economic and Social Council of United Nations from 2021 www.greenmentors.in Virendra Rawat
Director, Green Mentors













GM/EYA/2022/015/E1

















## **RD & SH National College & SWA Science College**

Mumbai, Maharashtra

Prepared by



Special Consultative Status with the Economic and Social Council of United Nations from 2021



### **AUDITOR'S VIEW**

A Green College is an educational institution that meets its need for natural resources – such as energy, water, and materials – without compromising the ability of people and future generations to meet their own needs.

Green Mentors (having special consultative status with the Economic and Social Council (ECOSOC) of the United Nations) is proud to Present the Green College Audit Report & Accreditation Certificate to the Rishi Dayaram & Seth Hassaram National College and Seth Wassiamull Assomull Science College, Bandra, Mumbai.

This report is prepared based on information provided by the R D & S H National College & S W A Science College Green Auditing Team to address the Five Elements of Nature and minimize the impact on the local environment through education and incorporating sustainability in the teaching-learning Practices.

- PRITHVI (Earth) Biodiversity Landscaping & Built-up Space
- JAL (Water) Water Management Practices
- VAYU (Air) Air Quality Level within the Campus
- AKASH (Sky) Application of Sustainable Technologies
- AGNI (Energy) Energy Management Practices

Green College Auditing and Accreditation is a Set of Global Indicators of Sustainability for assessing Green Learning Spaces, including Governance & Academics, Building Design & Landscaping, Water Management Practices, Energy Uses & Saving Practices, Air Quality Level, Health & Hygiene Practices & Sustainable Resource Utilization.

Each Green College Auditing & Accreditation Indicator is, in turn, measured against a set of the Global Standard for sustainable learning spaces auditing and accreditation.

Green Mentors is proud to declare that Rishi Dayaram & Seth Hassaram National College and Seth Wassiamull Assomull Science College, Bandra, Mumbai, have achieved **399** Points out of **500** Points & earned Gold Ranking in the Global Green University Accreditation Standards for the Period of Academic Year 2022-2025.

We are confident that RD & SH National College & SW A Science College will emerge as a Green engine for the new paradigm of the "green economy," in short, your College will contribute to the overall sustainability of the planet.

Virendra Rawat

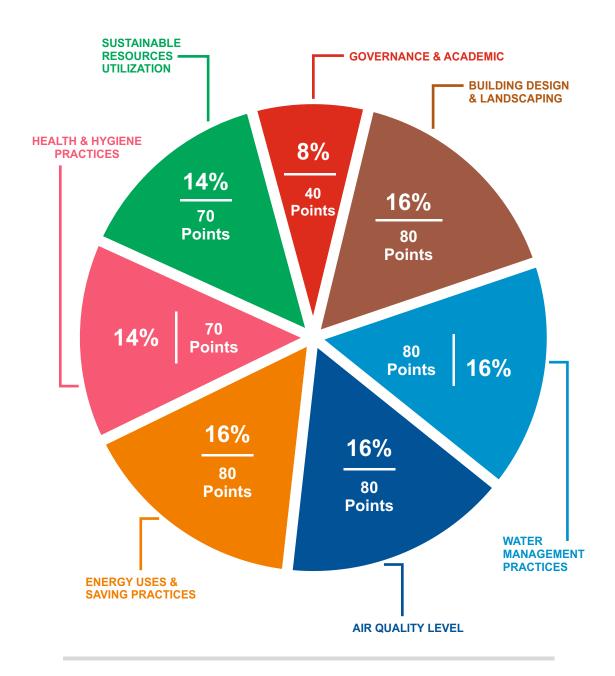
Director, Green Mentors

**GOOD FOR PUPIL & GOOD FOR PLANET** 





### **Sustainability Weightage of Assessment Areas**



#### **Certification Level**

Rejection	Certification	Silver	Gold	Platinum
000-100 Points	100-200 Points	200-300 Points	300-400 Points	400-500 Points

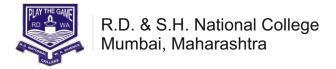




### **ACCREDITED CERTIFICATE**







#### Introduction

Rishi Dayaram & Seth Hassaram National College and Seth Wassiamull Assomull Science College, Bandra, Mumbai, are the oldest higher education institutions in the suburbs of Mumbai.

The College was first established in Hyderabad (Sind), now in Pakistan, in 1921 with the blessings of Dr. Annie Besant and Rishi Dayaram.

After the partition, the then Principal of this College, Principal K. M. Kundnani, vowed to re-establish the College in Mumbai.

It was the first institution of higher education established by the Hyderabad Sind National Collegiate Board (HSNCB) in Mumbai in 1949, under the able guidance of the founder Principal of this College, K. M. Kundnani, and the founder President of the HSNCB, Barrister H. G. Advani.

The history of the College is an inspiration in itself and has been striving to provide the best of the facilities and the courses; and has served first-generation learners and minority communities for over six decades, imparting value-based community intense education.

The College is permanently affiliated with the University of Mumbai and recognized by the U.G.C. under 2(f) and 12(b) of the U.G.C. Act.

The College strongly believes that one of the most critical aspects of higher education is to create an individual who can contribute to national growth through self-learning. Campus-Induced Placement Process and Curriculum-Intense Intercollegiate departmental festivals are some student-intense steps toward self-learning.









#### 1. Governance

#### **GOVERNANCE & ACADEMIC**



















Statutes drive the Governance of R D & S H NATIONAL COLLEGE, AND S W A SCIENCE COLLEGE.

The governing body of R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE is committed to its purpose, serving all stakeholders' interests, including the environment.

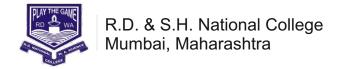
Governing Body of R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE also follows well-informed decision-making, transparency in teaching-learning practices & accountability in the performance and use of human potential.

#### About Governing Body

The Hyderabad Sind National Collegiate Board is an educational conglomerate of 24 institutes of learning, 14 of which are higher education institutes affiliated with the University of Mumbai.









### 2. Leadership

#### **GOVERNANCE & ACADEMIC**



















The Principal of R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE plays a pivotal role in making the R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE a Responsible College.

She has nurtured many successful leaders through quality & responsible education. She is a lifelong learner and strives to build the nation through responsible education.

#### **Academic Leadership**



**Dr. Neha Jagtiani**I/C Principal

Dr. Neha Jagtiani is passionate about her vision and plans to make R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE a leading responsible College.

Dr. Neha Jagtiani is a Gold medallist from the University of Mumbai, and she has earned a Ph.D. from SNDT University.

Dr. Jagtiani is a member of the BoS of the University of Mumbai. In addition, she serves with Top Educators as Advisory to the Government of Maharashtra for the National Education Policy.

She has been awarded the 'Best Citizen of India' award by International Publishing House. In addition, she was part of the prestigious Educators Delegation to Universities in the UK and Australia.





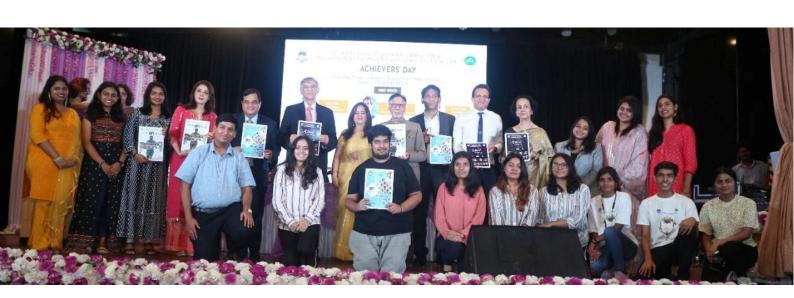
She was honored with the Covid 19 Game Changer Award for Innovative Spirit, Leadership, and Positive Contribution to Humanity by the Sindhi Chamber of Commerce.

She was felicitated by the Honourable Governor of Maharashtra, Shri Bhagat Singh Koshiyariji, for being a Covid Warrior.

Recently, she also received National Talent Search Award 2021 for her valuable contribution to Empowering Education in Indian Accounting Association.

Recently on the occasion of International Women's Day, DrJagtiani was honored with the Lifetime Achievement Award by The Ministry of Youth Affairs, Government of India.

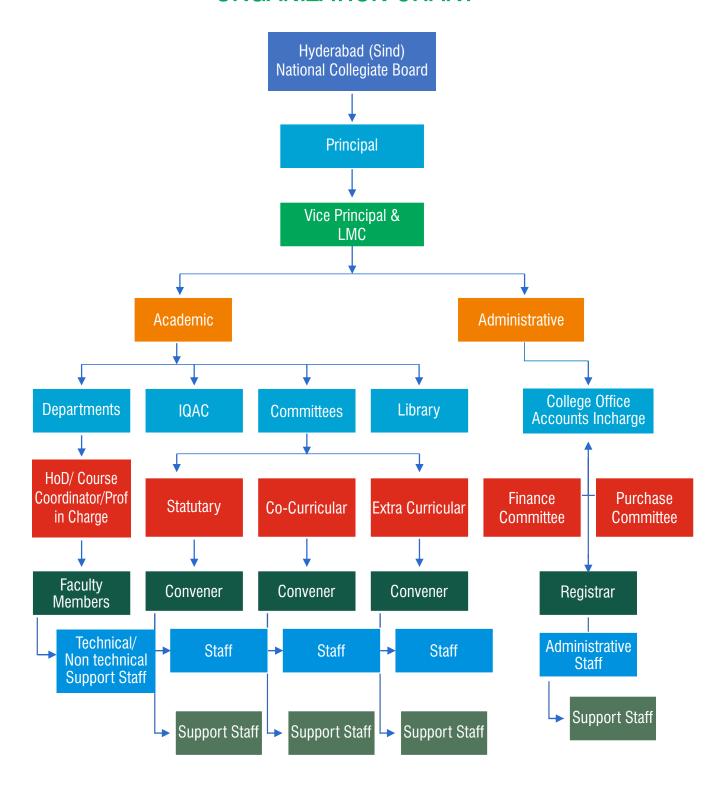
She is also a member of the Indian Merchants Chambers' Education Committee.







### **ORGANIZATION CHART**









### 3. Sustainability Commitment

#### **GOVERNANCE & ACADEMIC**



















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE firmly accepts the "accountability to the future" — a unique role and a special responsibility in confronting the challenges of climate change and sustainability.

The vision of R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE is rooted in its shared responsibility to build and operate a campus that contributes to the well-being of every member of its community—and ultimately to the health of the planet.

#### **Sustainable Practices**

The college is striving to become a sustainable campus. The college intends to prepare the students as responsible citizens through research, innovation, and working towards a better future for all.

#### Initiatives towards achieving a sustainable campus are as follows:

#### **Waste Recycling System**

Separate Waste Bins for collecting dry and wet wastes are provided on every floor and in the open spaces. In addition, paper waste is sent to an approved paper recycling agency.

#### Solid Waste Management

Biodegradable waste such as leaf litter and uncooked canteen waste is sent to vermicomposting pits, while cooked food is composted in tumblers.

Manure thus generated is used in the college garden. In addition, the college has scaled it up with new Vermibed, where microbes compost leaf litter.

#### **Biomedical Waste Management**

As UGC bans dissection, we have no biomedical waste, while the waste from biotechnology is treated by autoclaving.

#### **Hazardous Chemicals**

Chemistry experiments are carried out on a micro/semi-micro scale to reduce the release of pollutants. Strong chemicals are neutralized before disposal.

#### E-waste Management

E-waste is checked for functional parts and, if any, is kept aside for future use. In contrast, damaged computers are used by the instructor in the practical demo sessions in Computer Science and





Information for showing different parts, after which it is given to an approved recycling agency.

#### **Liquid Waste Management**

The college has an in-house water recycling plant, installed by Phytorid Technology patented by NEERI, catering to the wastewater recycling of Biotechnology & Biology laboratories.

This recycled water is used to water the plants and trees on the campus. The college has scaled it up with a new Water recycling system where the chemical-laden wastewater from chemistry laboratories is treated and recycled.

#### **Use of Renewable Energy**

Two solar panels have been installed in the college by the Department of Physics, connected in series with an output of 160 watts per hour and storing capacity of 24 volts.

Electricity generated by solar panels is used in the MSc Physics Laboratory.

All classrooms are furnished with LED tube lights, and all newly purchased Air conditioners are 5 Star energy-efficient ones.

Vehicles are restricted on the campus to minimize the impact on the environment through automobile use.

#### **Policy On Ban On Plastic**

The use of plastic is banned on campus. The use of Cloth bags is encouraged on the campus.

NSS and the Nature Club of the College regularly organize campaigns and competitions for the use of eco-friendly alternatives to plastic.

#### **Landscaping with trees and plants**

In-house Census is carried out once in 5 yrs. The last census was carried out in 2018, along with the Ideal carbon sequestration rate for every tree on the campus.

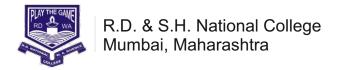
All the trees are maintained on the campus, and there are 102 trees on the campus.

In addition, there are around 1000 herbs and shrubs belonging to more than 30 plant families. Furthermore, there are two endangered species, Guggul and Real, which are protected on the campus.

The college is planning to develop a medicinal plant garden with plants used in various diseases for the campus greening and awareness among the students.

College is also Planning of development of a lawn that soothes our eyes as it is a great stress buster.





#### **Nature Club Activities**

World Wildlife Week- Adopt a Plant Initiative 2021

Van Mahotsav: July 1 to July 7, 2021 – Sapling Planting Drive and caring for it for a month.

International Biodiversity Day- Guest Lecture by Mr. AvinashKubal on May 22, 2021

Wetland Day – Guest Lecture by DR. Umesh S. Mundlye (February 2, 2021)

Mangrove Protection Day – Mangrove Diversity of Maharashtra Awareness Fortnight Series (July 26, 2021)

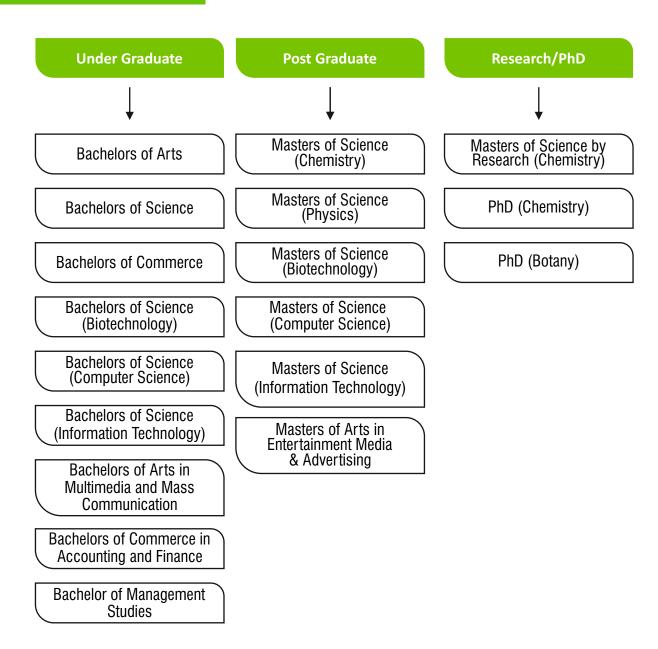
Furthermore, the Nature Club of the college also publishes a review of its activities in the bi-monthly E-Newsletter "Neev," which is circulated among more than 5000 people in India and abroad.







### **List of Programs**



### **Number of students**

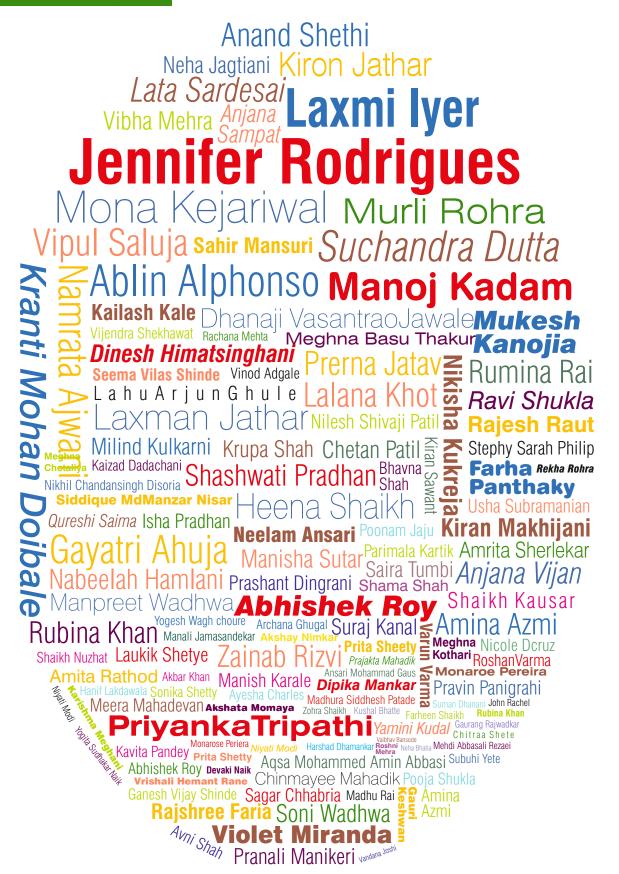
#### Academic Year 2020 - 2021

Under Graduate	Post Graduate	Ph. D.
3503	388	08





**List of Teaching Staff** 







**List of Non - Teaching Staff** 

Shri.Mahesh A Lulla

Ms.Barkha M Godhwani Shri.Suresh M.Dhameja

Shri.Maxie L D'souza Ms.Amrita U Asnani

Shri.Rajendra D Ruke

Valmiki Shri.Dinesh R Dalvi Shri.Babaji R Kanade

Shri.Himanshu P Aggarwal

Shri.Bhimsen R Mishra

Shri.Vijay S Dange

Shri.Bhaskar D Mahajan

Shri Satish.V.Sawant

Shri.Parmendra S Valmiki

Shri.Phoolchand Vishwakarma





Shri. Yogesh D Shinde

Shri.Bharat P Kandke Shri Sandesh B Hate Shri.Sandeep J Singh Shri.Sachin S Chavan

Shri.Krishna Rajpure Shri.Prakash K Solanki Shri.Arun J Kumbhar ≤

Shri.Roshan B Jangam

Shri.Akash R. Pardeshi Mr. Tushar Verma

Mr. Vishwadeep Mane

Mr. Pradeep Chavan Mr. Sanjeev S. Valmiki

Mr. Sachin A. Khedekar

Mr. Mangalprasad Pal-

Mr. Jagdev Verma

Mr. Aditya Takle

Mr. Vikas Naresh Nishad

Mr. Sanjay Raorane

🖺 Mr. Shantilal Kanojiya

Mr. Chandraram Yadav

Mr. Chandrakant Shelar

ashchandra

Mr. Rohit Pote Mr. Sanjay Namde

Vasant M. Shedekar **Sunil P. Singh** 

S. Gosavi 🖁

Mr. Krishr Rahu Ms. Reshma R Mr. Rahu R. Mr. Rahu R. Mr. Rahu

Mr. Sushilkumar R. Kori Ms. Ratni Baljit Singh Tak

₹amesh

Mr. Lalchand Vishwakarma Mr. Gangaram Singh Mr. Rushikesh Jangam







#### 4. Innovative Practices

#### **GOVERNANCE & ACADEMIC**



















Innovation is an application and implementation of creativity; thus, creativity and innovation are inseparably related, which reflects their complementarity in providing what is new and adding value.

Post Graduate & Research Programs of R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE are driven by innovation.

Deans and HoDs of various academic departments bring innovation into learning opportunities through collaboration with exceptional researchers, innovators & entrepreneurs.



**Cumulative Score** 

36/40





### 1. Local Building Regulations

#### **BUILDING DESIGN & LANDSCAPING**













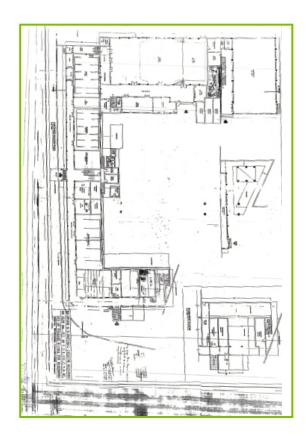


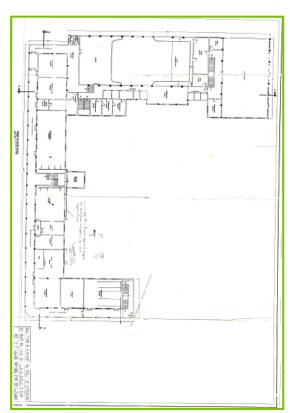




Green building laws and codes in our country are voluntary. A green building is one that uses less water, optimizes energy efficiency, conserves natural resources, generates less waste, and provides healthier spaces for occupants, as compared to a conventional building.

Built-up learning spaces of R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE meet all local building laws.

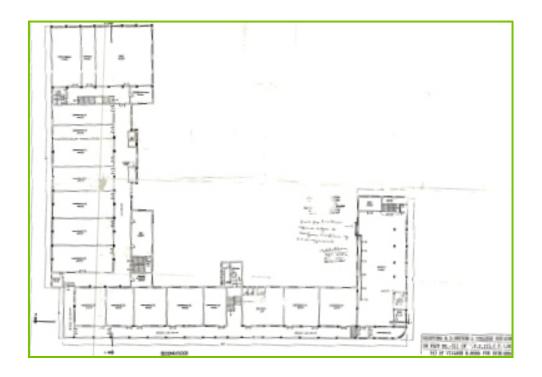




Ground Floor First Floor







Second Floor



Third Floor





#### 2. Top-Soil Preservation

#### **BUILDING DESIGN & LANDSCAPING**



















Topsoil is the uppermost layer of soil capable of growing and supporting vegetation. Soil conservation is the prevention of loss of the top layer of the soil from erosion or prevention of reduced fertility caused by over usage, acidification, salinization, or other chemical soil contamination.

R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE have taken proactive measures toward topsoil conservation on the campus through regular aeration that allows the nutrient to reach the roots of plants, filling the holes created by aeration, indigenous gardening, building wind barriers, mulching and placing stepping stones for walkers on topsoil.

The college is located in suburban Mumbai in a highly urbanized and densely populated locality despite the fact that this college has maintained some open soil area on its campus.

This open soil area is completely covered in green foliage consisting of large trees as well as plants and shrubs of various values to human society that serves as a preventive measure against erosion as well as an educational specimen.









### 3. Eco-Friendly Commuting Practices

### **BUILDING DESIGN & LANDSCAPING**

















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE encourages its students & professors to adopt environment-friendly transport to minimize the environmental impact of automobile use.

Mode of Transportation	Walking	Bicycle	Motorcycle	Car	Collage Bus	Public Transport
Students	5%	_	_	5%	-	90%
Teachers	_	_	3%	12%	_	85%
Non-Teaching Staff	2%	_	3%	7%	_	88%









### 4. Parking Facility

### **BUILDING DESIGN & LANDSCAPING**

















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE has sustainable shaded parking spaces that include sustainable paving materials, energy-efficient or natural lighting, renewable energy sources, and improved pedestrian walkways.

Mode of Transportation	Buses	Cars	Motor Cycle	Bicycles
	2* (If Need be)	20	40	20







### 5. Greenery in Campus

#### **BUILDING DESIGN & LANDSCAPING**



















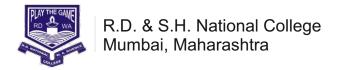
Maintaining a rich diversity of plants is vital to stable and healthy ecosystems as they provide food, shelter, and other important components of habitat for wildlife.

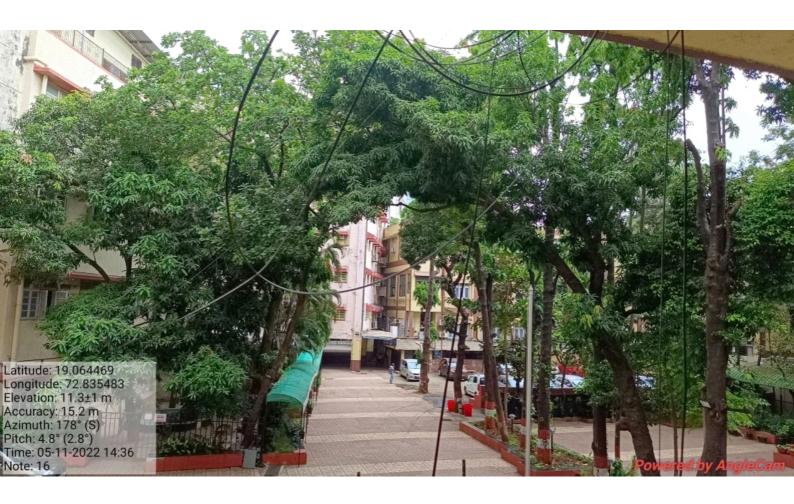
Interaction with Greenery can be beneficial for human stress reduction, emotional states, and improved cognitive function.

R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE has maximized Greenery on its campus, including vertical gardens, parks, meadows, green roofs, and playing fields that support well-being and education outcomes.













Vertical Gardening







### 6. Minimize Heat Exposure to Sun: Non-Roof

















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE Campus is housing 100 plus trees and 1000 plus herbs and shrubs that are restricting impervious surfaces from being exposed to the sun to minimize the impact on microclimate on the campus.

No. of existing trees / saplings planted : 1102









### 7. Minimize Heat Exposure to Sun: Roof



















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE has planted trees in a strategic way that provides shade to the roof in summer; when the leaves fall, the trees allow the Sun to shine through, creating a desired solar heat gain effect during the winter.

Most of the roof areas are covered with tiles & paint to reduce the concrete surface that was exposed to the Sun and minimize the impact on the microclimate on the campus.







### 8. Universal Design

#### **BUILDING DESIGN & LANDSCAPING**



















Universal Design for Learning (UDL) is an approach to teaching and learning that gives all students equal opportunity to succeed. The goal of UDL is to use a variety of teaching methods to remove barriers to learning. It's about building flexibility that can be adjusted for every person's strengths and needs.

Learning spaces at R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE are designed to facilitate differently-abled pupils.

Rest Rooms are also designated for differently-abled Students; a Hindrance-free movement facility is available in the common area.

- 1. College has Non-slippery ramp for easy access
- 2. Assistive technology and facilities for persons with Divyangjanaccessible screen-reading software-Software JAWS
- 3. Provision for enquiry and information: Human assistance, reader, scribe available with College.



**Cumulative Score** 

70/80







### 1. Rainwater Harvesting: Roof & Non-Roof

#### WATER MANAGEMENT PRACTICES



















The Earth's surface is acquired by 71%with water, but only 3% of water can be used as potable water. Nowadays, conservation of water is one of the basic principles of green University.

R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE has a well-designed rainwater harvesting system on the campus that enhance the groundwater table and reduces potable water usage.

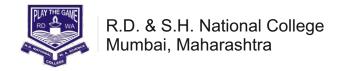
R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE captures maximum run-off volume of rainwater from Roof & Non-Roof areas.

Average normal rainfall/ day in your area.87.01

The Average normal rainfall / day can be calculated as shown in the table below:

Average Rain fall (r)					
Location	Year	Peak Rainy Month	Total Rainfall (mm)	Number of rainy days	Normal Rainfall / Day (mm)
	2018	July	1138	15	75.87
	2019	July	1464	15	197.60
Bandra	2020	July	1502	15	100
	2021	July	1119	15	74.60
Average normal rainfall/ day (mm) = 87.01					
Average normal rainfall/ day (m) $= 0.87$					





### **WATER MANAGEMENT PRACTICES**

### **Run-off coefficients for Typical Surface Types**

Sr. No.	Surface Type	Coefficient
1	Cemented / Tiled Roof	0.85
2	Vegetation, Flat (0 - 1% slope)	0.18
3	Concrete Pavement	0.80
4	Playground	0.28

### **Rain Water Harvesting Calculation**

Sr. No.	SURFACE TYPE	Coefficient ( c )
1	Tiled Roof	0.85
2	Playground	0.28
3	Turf, Flat (0-1% slope)	0.18
4	Concrete Pavement	0.80
5	Open Grid Pavement	0.85
6	Water Body	1



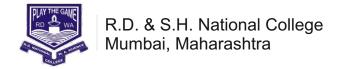


### **WATER MANAGEMENT PRACTICES**











### 2. Water Efficient Plumbing Fixtures

#### **WATER MANAGEMENT PRACTICES**



















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE have initiated responsible use of freshwater practices in the learning spaces to reduce the consumption of potable water in drinking Water Points, face washing points, urinals, and toilets to reduce the water flow rate in the daily use.

Most plumbing fixtures are low flow without hammering the performance. Plumbing fixtures have achieved water efficiency standards for Green Campus and are working properly with no leaks or drips.









### 3. Turf Design

### **WATER MANAGEMENT PRACTICES**



















Turf is a major component of the whole landscape in R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE, which meets functional and aesthetic expectations for the teaching-learning community while at the same time minimizing the impact of natural resources and the greater environment.

Turf area of R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE has many drought-tolerant species in its total vegetated area that minimizes water consumption.









### 4. Water Efficient Landscaping

#### **WATER MANAGEMENT PRACTICES**



















Most Colleges in India use their maximum water for landscape and lawns irrigation, while water efficient landscape is one that is functional, attractive, and easily maintained in its natural surroundings.

Whole Landscaping in R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE campus is water-efficient that reduces water consumption through responsible irrigation practices and mulching. The vegetated area of campus contains drought-tolerant plant species, including trees, shrubs, herbs, climbers, and grass that require less water than other Species.









#### **5. Water Efficient Irrigation System**

#### **WATER MANAGEMENT PRACTICES**



















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE uses sprinkle irrigation as an efficient irrigation system that keeps landscape plants healthy and beautiful.

Instead of wetting the whole landscape, water is applied only to the plant root zone. The primary goal of sprinkle irrigation is to apply water at the time when plants need it most and at rates needed for proper plant growth.



#### **6. Waste Water Treatment**





















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE follows minimum water discharge campus, which means minimized water is discharged outside the campus, and maximum water is harvested within the campus through recharge wells.







#### 7. Use of Treated Waste Water

#### **WATER MANAGEMENT PRACTICES**



















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE uses gray water for flushing toilets and irrigation of vegetated areas that reduce dependence on fresh water.





#### 8. Water Use Monitoring



















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE has a standard water monitoring system in place, having water flow meters that indicate daily, weekly and monthly water uses in various facilities.

Water loss is prevented through real-time alert of water overflow, leakages, and dripping that ensures judicious use of water consumption.

**Cumulative Score** 

63/80







## 1. Tobacco Smoke Control

## **AIR QUALITY LEVEL**















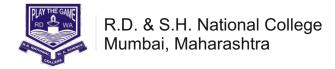




R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE is a totally Smoke-Free Campus Anti. Smoking Policies are strictly implemented that eliminate the exposure of students & teachers to tobacco smoke & reduce health impacts caused due by passive smoking.









#### 2. Day Lighting

#### **AIR QUALITY LEVEL**

















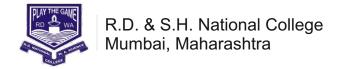


Indoor environmental conditions in classrooms and namely daylighting conditions, also influence students' health, well-being, and performance. The conscious use of daylight in Classrooms has a great potential for improving the comfort and the academic performance of users, contributing simultaneously to the rational use of energy in the building.

Maximum regular occupied spaces at R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE Campus are daylit, & average daylight factor is maintained.









#### 3. Fresh Air Ventilation

## **AIR QUALITY LEVEL**

















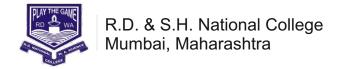


A good ventilation system helps to expel a build-up of pollutants, bacteria, moisture, and unpleasant odors, such as body odor from the classroom.

Maximum regularly occupied spaces like Classrooms, Laboratories, Libraries & Indoor Game Facilities of R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE Campus are adequately ventilated, and that improves the health and well-being of Students & Faculties.









### 4. Area of Class Room

### **AIR QUALITY LEVEL**



















All learning spaces, including classrooms of R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE, are well designed according to statuary standards and norms that follow appropriate occupant density, which enhances Student Productivity.

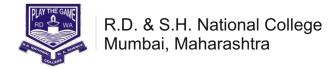
Sr. No.	Room No.			Area
1	1	27ft 6 inch	26 ft	714sqft
2	2	27ft 6 inch	26 ft	714sqft
3	2A	27ft	12ft	432sqft
4	2B	27ft	20ft	540sqft
5	3	27ft	17ft	459sqft
6	4	27ft	26ft	714sqft
7	5	27ft	26ft	714sqft
8	6	27ft	26ft	714sqft
9	7	27ft	26ft	714sqft
10	8	22ft	18ft	396sqft
11	9	46ft	20ft	920sqft
12	10	46ft	20ft	920sqft
13	11	46ft	20ft	920sqft
14	12	46ft	20ft	920sqft
15	13	46ft	10ft	460sqft
16	14	46ft	15ft	690sqft
17	16	27ft	20ft	540sqft
18	18	27ft	25ft	675sqft
19	20	23ft	10ft	230sqft
20	21	32ft	13ft	416sqft













#### **5. Anthropometric Dimensions in spaces**

#### **AIR QUALITY LEVEL**



















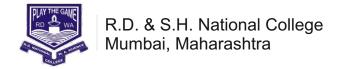
Anthropometry has considerable importance in optimizing the design of buildings. The underlying principle of anthropometrics is that building designs should adapt to suit the human body, rather than people having to adapt to suit the buildings.

Anthropometric dimensions of learning spaces aim to create safe, comfortable, and productive learning spaces by bringing human abilities and limitations into the designing of building, including the individual's body size, strength, skill, speed, and sensory abilities (vision, hearing) and even attitudes.

Maximum learning spaces of R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE, including Classrooms, Laboratories, Libraries & Indoor Game Facilities, Toilets, and Hostels & Canteen, are designed according to standard anthropometric dimension norms that allow comfort to the students.









### **6. Toxin-free Environment**

#### **AIR QUALITY LEVEL**



















The governing body of R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE has declared the policy to use material with low emissions, especially Paints, to reduce adverse health impacts on the students and teachers.









#### 7. Dust - Free Environment

#### **AIR QUALITY LEVEL**











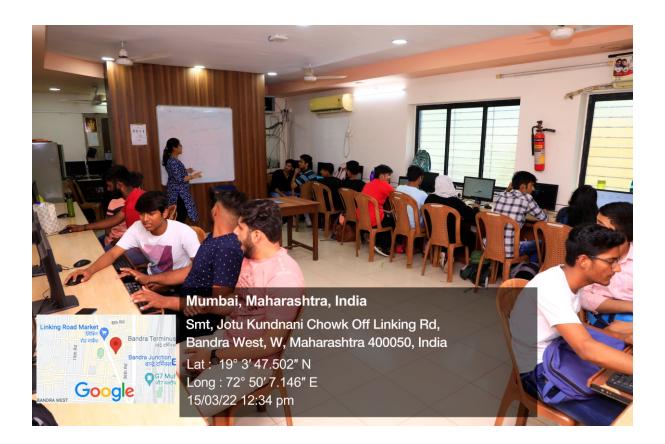








The governing body of R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE has declared the policy to use Dust Free Products, including Chalks & other materials, to reduce adverse health impacts on the Students and Faculties.









#### 8. Exhaust Systems



















Exhaust Fans are installed in all Toilets, Urinals, Canteens & Laboratories of R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE learning facilities that maximize airflow & enhance the Indoor Air Quality.



**Cumulative Score** 

71/80







# 1. Ozone Depleting Substances

#### **ENERGY USES & SAVING PRACTICES**

















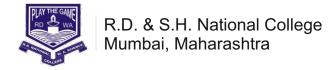


Ozone-depleting substances are chemicals that destroy the earth's protective ozone layer.

R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE has procured refrigerators and air conditioners, fire extinguishers, foam, and aerosol propellants that have minimum impact on Ozone.









#### **ENERGY USES & SAVING PRACTICES**

#### 2. Energy Efficient Lighting Fixtures



















It has been proven time and time again that natural light is the best solution for reading or studying.

R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE has as much natural light as possible to get the best learning outcome.

Energy-efficient lighting includes the use of more illumination from fewer power lights by replacing high power consumption lights like incandescent, high discharge lamps.

LED lighting provides a safe, secure & energy-efficient environment on campus at all times. LEDs also reduce the cost of operation while satisfying the needs of faculty members and students who can appreciate the benefits of eco-friendly solutions.

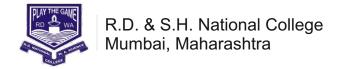
LEDs also provide outstanding durability in environments that can place an incredible amount of stress on light bulbs and lighting fixtures, such as a university campus.

Due to the high-quality energy efficiency, LED lighting allows universities to save a significant amount of money on repairs, operating costs, and maintenance costs. When compared to a traditional light bulb, LED light bulbs consume less than half the energy than the traditional light bulb.

R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE has installed LED Lightening & Fixtures instead of old Lightning to reduce the environmental impacts associated with energy use.









# 3. Energy Efficient Fans

#### **ENERGY USES & SAVING PRACTICES**















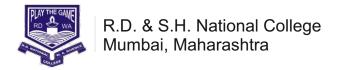




R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE has installed Energy-efficient Fans and Air Conditioners instead of High Energy Consuming Fans and Air conditioners that reduces the environmental impacts associated with energy use.









#### **ENERGY USES & SAVING PRACTICES**

# 4. Energy Efficiency in Appliances & Equipment



















Modern electronic appliances, such as freezers, ovens, stoves, dishwashers, clothes washers, and dryers, use significantly less energy than older appliances. Installing STAR-rated electronic appliances reduce energy consumption.

R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE has replaced energy-efficient Electronic Appliances & Equipment instead of High Energy Consuming Appliances, reducing the environmental impacts associated with energy use.









### 5. Energy Sub-Metering

#### **ENERGY USES & SAVING PRACTICES**



















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE practices continuous monitoring of energy uses through sub-metering and aspirate metering of each learning space, residential and open spaces throughout the year towards achieving judicious use of energy, which inspires the teaching-learning community to save the energy in their day to day uses.









### 6. On-Site Renewable Energy

#### **ENERGY USES & SAVING PRACTICES**



















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE has installed Solar panels in its physics lab as an on-site Renewable Energy Source; however, it encourages the student community to save energy to minimize the environmental impacts of using fossil fuels.









## 7. Solar Water Heating Systems

#### **ENERGY USES & SAVING PRACTICES**



















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE is a day college; therefore need for solar water heating systems doesn't arise.



#### 8. Distributed Power Generation



















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE has a well-designed power distribution system in place that allows the power supervisor to monitor the power supply according to the judicious need of the users.



**Cumulative Score** 

63/80







#### **1.Toilet Facilities**

#### **HEALTH & HYGIENE PRACTICES**



















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE has outsourced Hygiene & Cleanliness work to the local external cleaning agency, which maintains Hygiene & Cleanliness standards in all toilets and regularly reduces the risk of the infection in Students' and Teacher's Health & well-being.









# 2. Drinking Water Facility

#### **HEALTH & HYGIENE PRACTICES**



















Water Quality of all Drinking Water stations & Tapes is maintained at R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE Campus.

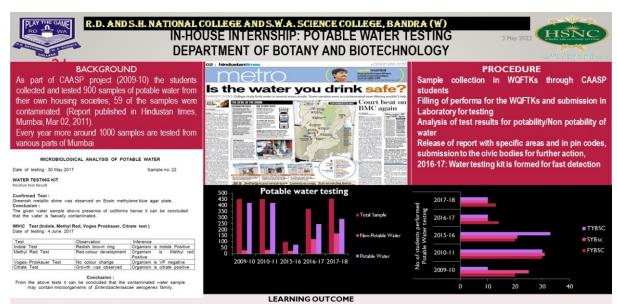
Water Quality Reports are checked by Government Authorized Laboratories at regular intervals of time to ensure Clean & Safe Drinking Water at all the time to everyone.





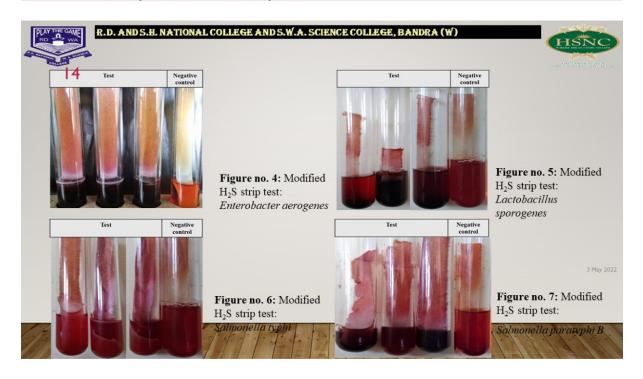


#### **HEALTH & HYGIENE PRACTICES**



3 Paper presented in International conferences, THREE research paper published, Selected as best paper award in Rajasthan Science Congress FUTURE PLAN

A rapid detection kit for a cost effective, rapid, and accurate detection of pathogens. For that a project has been submitted to FIST-DST as well in the process to submit University of Mumbai









#### 3. Access to Healthy Food

#### **HEALTH & HYGIENE PRACTICES**



















Healthy Food plays an important role in the optimal growth, development, health, and well-being of individuals in all stages of life.

Healthy and nutritious food are accessible to all students & teaching staff at the Canteen of R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE, maintaining the fitness of the teaching-learning community.

The catering facility of R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE is outsourced to the local food-making agency. Junk Food is strictly prohibited on the Campus.









# 4. Sports Amenities

#### **HEALTH & HYGIENE PRACTICES**

















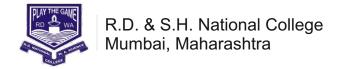


R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE offers various sporting opportunities to its undergraduate, postgraduate & doctoral students.

All Indoor & Outdoor sports amenities at R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE are designed to achieve excellence in sports to enhance the growth and health of students.









# 5. Dedicated Playground

#### **HEALTH & HYGIENE PRACTICES**



















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE has dedicated Sports Amenities for Basketball, while facilities for other sports are shared to minimize the impact on the environment.











### **6. Organic Fertilizers and Pesticides**

#### **HEALTH & HYGIENE PRACTICES**



















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE uses Organic Fertilizers and Pesticides to reduce Health impacts on Students and Faculties. Composting pits prepares enough fertilizers for the entire vegetated area.

Manure generated by composting is used in the college garden.









### 7. Green Housekeeping

#### **HEALTH & HYGIENE PRACTICES**



















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE uses environment-friendly cleaning products to clean its Learning & residential spaces.

Eco-friendly Cleaners are also used to clean the toilets and drinking water Stations to prevent chemical-related Health hazards.







**Cumulative Score** 

51/70







### 1. Waste Segregation

#### SUSTAINABLE RESOURCES UTILIZATION



















Waste Segregation Mechanism is well placed at R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE Campus. Waste generated through various sources and practices is being segregated in a safe manner & sent to recycling & composting sites or authorized recyclers in a safe manner, which prevents the waste from being sent to the landfills.









#### 2. Organic Waste Management















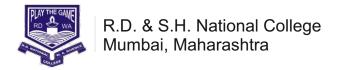




Since R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE has adopted the philosophy of "reduce - reuse - recycle", therefore all organic waste is sent to various composting and Vermi composting Facilities that make waste into a resource and prevents the waste from being sent to landfills.

























10

R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE framed a broader Green Policy that inspires its teaching-learning community to take responsibility for the future through their behavior with nature and natural resources.

#### ■ Policy for Restricted Entry

The college restricts entry of any vehicles during the inter-collegiate festivals of various departments of the college.

#### Policy on ban on plastic

The institute has a strict policy for the cut down on plastic use. We urge stakeholders to avoid disposable plastic cups and use reusable cups. We also discourage the use plastic bottles by replacing them with steel or glass ones. Departments are encouraged to regularly sensitize students to use paper bags or cloth bag. NSS and Nature club regularly organize campaigns and competitions for the use of eco friendly alternatives to plastic.

#### ■ Safai – Bank

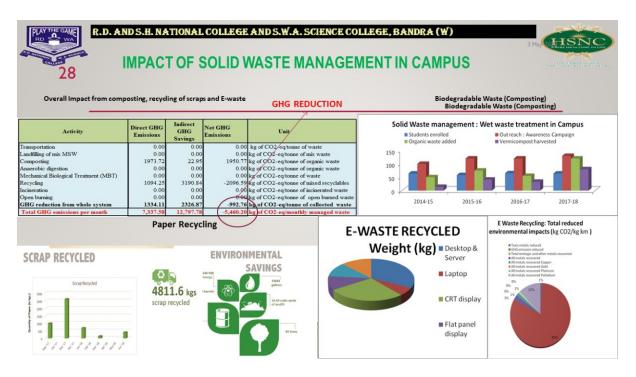
#### Landscaping with trees and plants

In-house Census carried out once in 5 yrs, last census was carried out in 2018 along with Ideal carbon sequestration rate for each and every tree of the campus. All the trees are maintained in the campus and there are 102 trees in the college. In addition there is around 1000 individual of herbs and shrubs belonging to more than 30 plant families. There are two endangered species Guggul and Raal which is maintained in the college.

Planning for development of medicinal plant garden with plants used in various diseases for the purpose of greening of campus and awareness among the students. Planning of development of a lawn which soothes our eyes as it is a great stress buster.

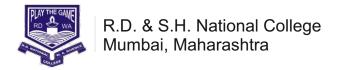












# SE CAN RECA

# 4. Salvaged Materials

#### SUSTAINABLE RESOURCES UTILIZATION



















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE makes new furniture & fixtures by using salvaged materials to reduce the dependence on virgin materials.









## **5. Eco-friendly Wood Based Materials**















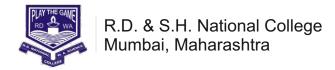




R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE encourages using Certified Composite Wood to encourage the use of Eco-friendly Wood-Based Materials towards conserving Forest Resources and reducing the dependence on virgin materials.









#### 6. Materials with Recycled Content



















R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE uses materials in its new construction sites and repairing spaces, which have recycled content like Concrete, Bricks, Fly ash Bricks, Aluminum Windows, and Glass & Tiles to reduce environmental impacts associated with the use of virgin materials.



To, Rishi Dayaram and Seth Hassaram National College and Seth Wassiamull Assomull Science College Smt. Jotu Kundnani Chowk, Off Linking Road, Bandra(W), Mumbai, 400 050 Date: 30thMarch 2022

Subject: Green Certificate for responsibly disposing of dry (non-biodegradable) waste

This is to confirm that 3469 Kgs of waste collected from Aug'2021 to Feb'2022 in the form of dry waste from Rishi Dayaram and Seth Hassaram National College and Seth Wassiamull Assomull Science College Smt. Jotu Kundnani Chowk, Off Linking Road, Bandra(W), Mumbai, 400 050 has been collected by ReCircle (brand of Swachh Sustainable Solutions Pvt Ltd) and its partners. The collected waste has been sent for processing via recycling & co-processing to ensure that no waste reaches landfills and oceans.

Total material diverted between Aug'2021 to Feb'2022 is 3469 Kgs.

Month	Quantity
Aug'21	1799
Oct'21	566
Nov'21	964
Feb'22	140
Total	2460

Note: All Numbers in Kgs

We further confirm that the above mentioned quantity of waste has been processed in an environmentally friendly manner and none of the waste has reached the landfills or oceans.

Thank you for your contribution!

Chr. N. Singue Sol.

Yours Sincerely Swachh Sustainable Solutions Pvt Ltd.

Swachh Sustainable Solutions Pvt Ltd

A-03, JUHU RITURAJ CHS, JUHU TARA ROAD, SANTACRUZ, WEST MUMBAI 400049. +91 90042 40004 | info@recircle.in | <u>www.recircle.in</u>





# 7. Local Materials

### SUSTAINABLE RESOURCES UTILIZATION

















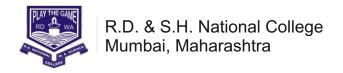


R D & S H NATIONAL COLLEGE AND S W A SCIENCE COLLEGE uses Building Materials available locally to minimize the associated environmental impacts resulting from transportation to build its new facilities.

**Cumulative Score** 

45/70





# **SUSTAINABILITY EVALUATION CHART**

Sr. No.	Assessment Areas	Cumulative Score
1.	GOVERNANCE & ACADEMIC	36/40
2.	BUILDING DESIGN & LANDSCAPING	70/80
3.	WATER MANAGEMENT PRACTICES	63/80
4.	AIR QUALITY LEVEL	71/80
5.	ENERGY USES & SAVING PRACTICES	63/80
6.	HEALTH & HYGIENE PRACTICES	51/70
7.	SUSTAINABLE RESOURCES UTILIZATION	45/70
	Total	399/500

# **Certification Level**

Rejection	Certification	Silver	Gold	Platinum
000-100 Points	100-200 Points	200-300 Points	300-400 Points	400-500 Points











