

Maulana Azad Educational Trust's


Y. B. Chavan College of Pharmacy

Dr. Rafiq Zakaria Campus

Aurangabad-431001 (M.S) India

**GREEN & ENVIRONMENTAL
AUDIT REPORT
2021-22**




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1. INTRODUCTION:

Y. B. Chavan College of Pharmacy is situated in the sprawling Dr. Rafiq Zakaria Campus at Aurangabad. Our legendary founder Chairman Late Dr. Rafiq Zakaria established the Y. B. Chavan College of Pharmacy, a pioneering degree college in 1989. With a vision to provide high quality postgraduate education in Pharmacy to students from all sections of the society in the region and to keep pace with the present advancements in technology and immense opportunities in the field of Pharmaceutical Research and industry, Ex-Chairman Late Mrs. Fatma Rafiq Zakaria introduced the Masters in Pharmacy in the year 2006. Presently the College is running post graduate (M. Pharm) in Pharmaceutics, Pharmacology, Pharmaceutical Chemistry and Quality Assurance as well as Ph. D Research Program. The College is approved Ph. D Research Center by Government of Maharashtra. The College is approved by the AICTE, New Delhi and PCI, New Delhi. The College is presently permanently affiliated to Dr. Babasaheb Ambedkar Marathwada University, Aurangabad and is approved under section 2(f) and 12 (B) of UGC, New Delhi. The College has been certified by ISO 9001:2008. It has been approved by NAAC with an “A” Grade (3.23 CGPA). The College is Ranked 53rd by NIRF 2021.

The vision mission of the College and other details are expounded below:

Vision:

To be the centre of excellence in pharmaceutical education and research, with global partnership and collaborations for students' development from all sections of society as competent pharmacist and proficient entrepreneurs with social commitments and human values.

Mission:

To develop an evolving educational system with optimum infrastructure, competent and dedicated manpower, appropriate interaction with industries and institutes of high reputes, to generate globally competitive pharmacist as entrepreneurs, skilled-technocrats, researchers and health care professionals, to imbibe the philosophy of our founder and mentors for imparting scientific and secular value-added education for social transformation and national development.

Elements of Mission:

M1: To develop an evolving educational system with competent and dedicated manpower.

M2: To provide optimum infrastructure.

M3: Appropriate interaction with industries and institutes of high reputes.

M4: To generate globally competitive pharmacist as entrepreneurs, skilled-technocrats, researchers and healthcare professionals.

M5: To imbibe the philosophy of our founder and mentors for imparting scientific and secular value-added education for social transformation and national development.

A. Milestones of the College:

Sr. No.	Title	Year
01	Increase in intake of M. Pharm Pharmacology (10 to 15) and M. Pharm Pharmaceutical Chemistry (12 to 15)	2021
02	GPAT-2020 got All India Rank First (AIR-1) by our student Mr. Omar Khan	2020
03	All India 36 th NIRF Ranking by MHRD, Government of India	2019
04	AMP National Award for Excellence In Education	2019
05	NAAC Accreditation "A" Grade with 3.23 CGPA Score	2018
06	All India 34 th NIRF Ranking by MHRD, Government of India	2018
07	Platinum Rank in (Highest) in AICTE-CII Survey of Industry linked Technical	2017

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	Institute	
08	Establishment of Centre for Entrepreneurship Innovation and Incubation (CEII)	2017
09	All India 24 th NIRF Ranking by MHRD, Government of India	2017
10	MoU with Tooba Pharmaceuticals Pvt. Ltd.	2017
11	MoU with Pollux Life Science Solutions LLP	2017
12	MoU with Adora Pvt. Ltd.	2016
13	MoU with Ullmann Laboratories Pvt. Ltd.	2016
14	Gold Rank in AICTE-CII Survey of Industry linked Technical Institute	2016
15	Green Audit A064	2016
16	In-house Bulletin YB Chronicle	2016
17	Installation of Solar Panel and ETP	2016
18	Registration of Alumni Association	2015
19	The Indus Foundation Award for Educational Excellence	2015
20	ISO 9001:2008 Certified Institute	2015
21	MoU with Lupin Ltd.	2014
22	Establishment of IQAC	2014
23	Guinness Book of World Record for largest Blood Donation in a day	2013
24	Introduction of CBCS in Pharmacy Curriculum	2013
25	Rajniibhai Patel Pharma Innova Award for Best M. Pharm Thesis	2012
26	Increase in intake of B. Pharm from 60 to 120	2012
27	Increase in intake of M. Pharm Pharmaceuticals from 15 to 24	2012
28	Establishment of Formulation and Development Cell	2011
29	2(f) and 12(b) Status Granted by the University Grants Commission (UGC), New Delhi	2010
30	Government Recognized Research Centre	2010
31	Minority Status by Govt. of Maharashtra	2009
32	Permanent Affiliation by Dr. Babasaheb Ambedkar Marathwada University, Aurangabad	2009
33	M. Pharm Program in Pharmacology (intake 10)	2009
34	Establishment of National Service Scheme (NSS)	2008
35	M. Pharm Program in Quality Assurance (intake 18)	2008
36	Renovation of Campus	2007

37	M. Pharm Program in Pharmaceutics and Pharmaceutical Chemistry	2006
38	Padmashree Award to Mrs. Fatma Rafiq Zakaria, Honorable Chairman, MAET	2006
39	Building Extension	2006
40	Establishment of Campus Canteen	2002
41	Establishment of Naval Tata Stadium	2001
42	MoU with Wockardt Ltd.	1999
43	Pharma Museum	1998
44	Strengthening Laboratory Facility	1991
45	Establishment of B. Pharm Program with 60 intakes	1989

B. Other Details:

Institution Name, Year when started, University/ Board Affiliation:

Institution Name : Y. B. Chavan College of Pharmacy, Aurangabad.

Year of Inception : 1989

University : Dr. Babasaheb Ambedkar Marathwada University,
Aurangabad.

Affiliated by : 1. All India Council for Technical Education (AICTE), New
Delhi.

2. Pharmacy Council of India (PCI), New Delhi.

1. ENVIRONMENTAL POLICY OF THE COLLEGE:

Y. B. Chavan College of Pharmacy, Aurangabad is a quality-conscious college. It protects its own environment by maintaining it green with the help of about 700 large and many more small plants in Dr Rafiq Zakaria Campus. Our staff and students always try to keep the campus pollution free in all possible ways. The management, administration and the students of the college look after the environment carefully. Every year, during rainy season, we perform tree-plantation and carefully look after the planted trees. As a result, now we have about 750 trees in our campus. Besides, we are having eco-friendly units like rain-water-harvesting units, wind-mill, solar panel, vermin-composting unit, biogas plant, etc.

We have our own environmental policy that includes-

- To comply with all requisite environmental legislations and government guidelines, wherever applicable.
- To ensure that there is optimum utilization of resources and waste generation is minimized.

- To integrate environmental concerns in decision-making, e.g. purchasing policy, teaching-learning process, communications, etc.
- To implement an environment management system.
- To strive towards continual reduction in ecological footprint of the college as it grows.
- Education and training of students, staff and society in environmental issues and the environmental effects of their activities.
- Monitoring progress and reviewing environmental performance against targets and objectives on a regular basis.
- To maintain the campus pollution-free by all possible ways like maximal use of green-energy like solar energy, wind-mill energy, natural light, etc.

2. GREEN AUDIT COMMITTEE:

Sr. No.	Name of Teacher	Role
1	Dr. Abubakar Bawazir	Chairman
2	Dr. Dehghan M H	I/C Member
3	Dr Mohd. Ismail Mouzam	Member
4	Dr. Marzooka Kazi Chisti	Member

3. CONSTITUTION FOR GREEN AUDIT:

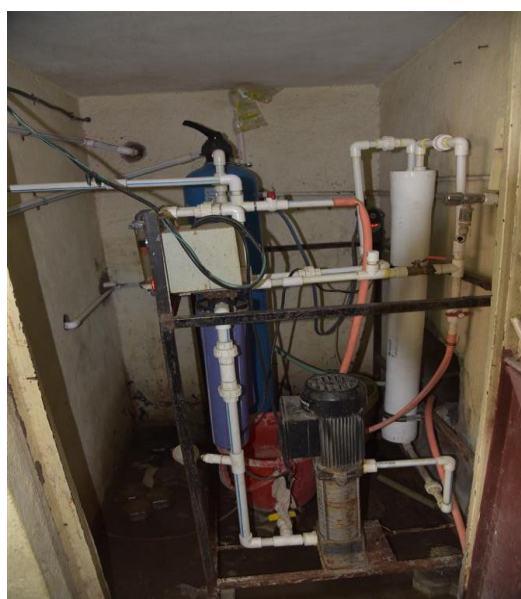
The Green Audit Committee will act as per the environmental policy and shoulder the responsibility for maintaining and protecting the environment in and around the college with the help of students, staff and society. It will work in various fields like-

- ❖ Waste Management
- ❖ Soil Management
- ❖ Water management
- ❖ E-waste management
- ❖ Bio-diversity and threatened species preservations
- ❖ Energy use and conservation
- ❖ Eco-friendly techniques
- ❖ Noise Pollution
- ❖ Air Pollution
- ❖ Paper less & Plastic less operating procedure
- ❖ Green area management and clean campus
- ❖ Fire safety

4. AIR POLLUTION MANAGEMENT

A. Periodic awareness programs for students, society and staff:

Our college is continuously conducting the awareness programs for staff, students and society for protecting and maintaining the environment. The awareness is increased by arranging pollution free days such as cycle day, car/auto polling, and use of public transport system and through on arrangement of programs on various issues, related to environment and health. The students and faculty members are involved in the activities through extension programs like NSS. Subject related to environmental awareness given is a compulsory part of the University B. Pharm Syllabus.



RO- WATER facilities and Save birds' activity (water and grain holders) conducted by our students and staff on trees in Dr Rafiq Zakaria Campus.



NSS volunteers had participated in cleanliness drive at Dhopteshwar Village



The NSS volunteers of Y.B. Chavan College of Pharmacy had participated in “Maha Swachta Abhiyan at Daultabad Fort” with Aurangabad Divisional commissioner Mr. Puroshottam Bhapkar



NSS volunteers participated in Tree Plantation and Stationary Distribution to needy Children students at Dhopteshwar Village.



NSS Volunteers of the College participated and gave live demonstration of resuscitation process during disaster management during the function held at DR BAMU, Aurangabad.



NSS students participated in preparation and distribution of food during NSS Camp



"Free Mask and Sanitizer Distribution to Police"

NSS Volunteers participating in COVID-19 Vaccination and Mask and Sanitation Drive, assisting various Government agencies as COVID-Warriors



Eye Check up and Free medicine distribution by NSS Volunteers at Dhopteshwar Village



NSS volunteers tree plantation at Dhopteshwar ZP school



General Medical Checkup and free distribution of medicine by NSS Volunteers

B. Conducting systematic study for carbon emission – Collecting statistical data.

Methodology: -

1. Girth and height of plants was calculated by using meter scale.
2. Generally trees having 72.5% average dry matter and 27.5% moisture content hence a fresh weight of plants was calculated by using the formula as $W=0.25D^2H$ (Where, D = diameter / girth of plant and H = height of plant)
3. Dry weight of plants was calculated using the formula as dry weight = wet weight X 72.5%.
4. Total tree volume contains 50% average carbon-content. Thus, amount of the carbon in trees was measured by multiplying dry weight by 50%.
5. CO₂ sequestered by trees was calculated by multiplying weight of carbon in trees by ratio of C in CO₂ i.e. 3.66.

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Sr. No.	Botanical name	Of individuals	of Year Plantation	Girth				Height. (feet)	Canopy (Sq.Feet)	Age	CO ₂ Sequestere d/year lbs
				< 5	5.1 - 10	10.1- 30	>30				
1.	<i>Acacia auriculiformis</i> A.	12	2005				√	40	1200	11	4969.813
2.	<i>Achras sapota</i> L.	03	2005				√	30	900	11	1448.260
3.	<i>Adathoda vasica</i> Nees	03	2007		√			3	15	9	6.512
4.	<i>Aegle marmelos</i> (L.) Corr.	01	1995				√	40	1200	21	930.324
5.	<i>Alstonia scholaris</i> (L.) R.Br.	42	2009				√	32	960	07	80839.275
6.	<i>Annona reticulata</i> L.	03	1995				√	10	300	21	512.627
7.	<i>Anthocephalus cadamba</i> (Roxb.) Miq.	05	2011				√	10	300	5	3831.445
8.	<i>Asparagus racemosus</i> Willd.	02	2011		√			1Inc.	0.4	5	10.207
9.	<i>Araucaria heterophylla</i> (salisb.) Franco	01	1982				√	90	2700	34	1220.053
10.	<i>Azadirachta indica</i> Juss.	49	1993				√	30	900	23	44849.688
11.	<i>Bambusa arundinacea</i> (Retz.) Willd.	04	1985			√		10	200	31	296.332
12.	<i>Bauhinia purpurea</i> L.	03	1997			√		18	360	19	888.410
13.	<i>Bauhinia racemosa</i> Lam.	01	1998				√	50	1500	18	22427.445
14.	<i>Bougainvillea spectabilis</i> Willd.	46	2000			√		60	1200	16	5373.217
15.	<i>Butea monosperma</i> (Lam.)Taub	01	1987			√		6	120	29	64.674
16.	<i>Caesalpinia pulcherima</i> (L.) Sw.	07	1990		√			6	42	26	52.139
17.	<i>Callistemon lanceolatus</i> (Sm.) Sweet.	02	1990				√	17	510	26	769.710
18.	<i>Carica papaya</i> L.	02	2005			√		8	160	11	487.731
19.	<i>Caryota urens</i> L.	02	2000			√		6	120	16	186.895
20.	<i>Cassia auriculata</i> L.	01	1993			√		10	200	23	135.908
21.	<i>Cassia fistula</i> L.	02	1985			√		15	300	31	324.473
22.	<i>Casurina equisetifolia</i> L.	01	1997				√	70	2100	19	2974.587
23.	<i>Chlorophytum laxum</i> R.Br.	01	2005		√			1.5	7.5	11	0.489
24.	<i>Cocus nucifera</i> L.	02	2001				√	80	2400	15	7502.130

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25.	<i>Plectranthus scutellarioides</i> (L.) R.Br.	10	2005	√				02	10	11	11.599
26.	<i>Cycas circinalis</i> L.	05	1983				√	3	90	33	122.513
27.	<i>Dalbergia sisso</i> Roxb. Ex. DC	02	1985				√	65	1950	31	3091.521
28.	<i>Delonix regia</i> (Hook.) Raf.	08	1984				√	50	1500	32	12459.691
29.	<i>Dombeya acutangula</i> Cav.	08	2005				√	8	240	11	1818.698
30.	<i>Draceana fragrans</i> (L.) Ker.Gawl.	01	2010			√		10	200	6	484.300
31.	<i>Emblica officinalis</i> Gaertn.	01	2011				√	25	750	5	3032.111
32.	<i>Eucalyptus globulus</i> Labill.	02	2011				√	70	2100	5	18766.488
33.	<i>Ficus benghalensis</i> L.	02	1981				√	60	1800	35	7689.410
34.	<i>Ficus elastica</i> Roxb.	01	2001				√	25	750	15	723.632
35.	<i>Ficus racemosa</i> L.	01	1983				√	60	1800	33	1046.795
36.	<i>Ficus religiosa</i> L.	01	1983				√	40	1200	33	1022.631
37.	<i>Ficus benjamina</i> L.	05	1983				√	25	750	11	4077.717
38.	<i>Hamelia patens</i> Jacq.	11	2005			√		6	120	11	1054.987
39.	<i>Hibiscus rosa sinensis</i> L.	06	2005			√		5	100	11	352.315
40.	<i>Ixora coccinia</i> L.	05	2005			√		6	120	11	575.230
41.	<i>Jatropha curcus</i> L.	09	2005			√		7	140	11	2055.169
42.	<i>Lantana camera</i> L.	01	2010			√		3	60	6	87.916
43.	<i>Lawsonia inermis</i> L.	01	2010		√			3	15	6	19.936
44.	<i>Mangifera indica</i> L.	07	1984				√	50	1500	32	7692.613
45.	<i>Millingtonia hortensis</i> L.	01	1985				√	60	1800	32	1513.853
46.	<i>Mimusops elengi</i> L.	32	2001				√	30	900	15	21460.174
47.	<i>Moringa oleifera</i> Lam.	01	2005				√	10	300	11	326.217
48.	<i>Murraya paniculata</i> (L.)	01	2011			√		3	60	5	23.923
49.	<i>Nerium indicum</i> Mill.	10	2001			√		3.5	70	15	301.425
50.	<i>Peltophorum pterocarpum</i> (DC.) Baker.	02	2005				√	50	1500	11	5799.420
51.	<i>Pithecellobium dulce</i> (Roxb.) Benth.	01	2011				√	56	1680	15	2149.420
52.	<i>Polyalthia longifolia</i> (Sonner.) Thw.	57	2001				√	32	960	15	58649.462
53.	<i>Prosopis cineraria</i> L.	01	1995			√		6	120	21	83.046
54.	<i>Psidium guajava</i> L.	01	2001			√		8	160	15	47.845
55.	<i>Rauwolfia serpentine</i> L.	01	2005		√			2	10	11	2.610

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56.	<i>Ravenala madagascariensis</i> J.F.Gmel.	03	2010			√		35	700	6	2790.971
57.	<i>Rosa indica</i> L.	05	2010		√			2	10	6	23.923
58.	<i>Roystonea regia</i> (H.B.&K)	28	1995				√	50	1500	21	28946.355
59.	<i>Russelia equisetiformis</i> Schlecht & Cham	01	2011		√			1.5	7.5	5	9.697
60.	<i>Samanea saman</i> (Jacq.) Merr.	12	1997				√	75	2250	19	24476.605
61.	<i>Santalum album</i> L.	01	1999			√		15	300	17	219.872
62.	<i>Sapindus laurifolius</i> Vahl.	02	2000			√		8	160	16	25.517
63.	<i>Securinega leucopyrus</i> (Willd.) Muell.-Arg.	12	2001		√			5	25	15	39.871
64.	<i>Spathodea companulata</i> P. Beauv.	01	2005			√		25	500	11	762.073
65.	<i>Swietenia mahagoni</i> L.	03	2005				√	70	2100	11	9324.380
66.	<i>Syzygium cumini</i> (L.)	02	2001				√	60	1800	15	3266.233
67.	<i>Tabernaemontana divaricata</i> (L.)R.Br.	17	2001		√			5	25	15	225.936
68.	<i>Tamarindus indica</i> L.	08	2004				√	40	1200	12	9569.043
69.	<i>Tecoma stans</i> L.	10	2001			√		8	160	15	172.243
70.	<i>Thuja occidentalis</i> L.	04	2001			√		1	20	15	6.805
71.	<i>Allamanda cathartica</i> L.	01	2001			√		3	60	15	413.383
72.	<i>Dyopsis lutescens</i> (H.Wendl) Beentje & J. Dransf.	98	2001		√			6	42	15	1265.984
73.	<i>Terminalia catappa</i> L.	01	2001				√	50	1500	15	1628.066
No of Individuals		615							416330.8		419811.97 lbs 190.595 tonnes per yr

**Table No. 1: List of plants with girth size and CO₂ sequestered details in college campus
LIST OF PLANTS IN AND NEAR NAVAL TATA STADIUM AND MILLENNIUM
SPORTS CLUB**

Sr. No.	Botanical name	No. of individuals	Plantation year	Girth (Feet)				(feet)	Canopy (Sq. Feet)	Age (year)	CO ₂ Seques./yr (lbs)
				< 5.1	5.1-10.1	10.1-15.1	> 15.1				
1	<i>Limmonia acidissima</i>	1	2005				√	40	1200	11	1879.0121
2	<i>Ficus racemosa</i> L.	1	2005				√	40	1400	11	1776.0724
3	<i>Azadirachta indica</i> Juss.	14	2005			√		30	600	11	6089.391
4	<i>Spathodea companulata</i> P. Beauv.	55	2005			√		20	400	11	24919.383
5	<i>Alstonia scholaris</i> (L.) R.Br.	55	2005			√		30	600	11	46888.311
	Total No of Individuals	110							66000		81552.16897lbs/yr (37.025tonnes/yr)

Table No. 2: List of plants with girth size and CO₂ sequestered details in Naval Tata Stadium

Y. B. Chavan College of Pharmacy building is on an exclusive tag area of 2.5 acres but the total Campus of the college is spread over the area of 16 acres. Out of 16 acres of the campus, 9 acres are under canopy. Institution has developed lush-green campus by planting large number of plants. According to survey, institution has planted around 725 plants of 73 different varieties.

Apart the 16 acres area 4 acre is exclusive as Naval Tata Stadium which is the open area which is useful for the various sports activities of students, staff etc.

Carbon footprint

An important aspect of undertaking an audit is to be able to measure our impact on environment so that we can determine better ways to manage the impact. In addition to the water, waste, energy and biodiversity audits, we can also determine our carbon footprint based on the amount of carbon emissions.

By evaluating the CO₂ emissions in the campus, it becomes easy to devise the strategies for sustainability of the ecosystem.

Carbon footprint evaluation was performed in two phases:

- Phase 1: Defining the carbon footprint parameters
- Phase 2: Quantifying the carbon footprint.

In this report we have identified and defined carbon footprint inventory parameters such as electricity, human, waste, paper, LPG etc. The amount of CO₂ emitted by the various footprint parameters was calculated by using standard CO₂ emission factors.

Sr. No.	Carbon footprint Parameters	Amount of CO ₂ Emission (tons/year)
1	Human	739.25
2	Electricity	344.06
3	Waste	327
4	LPG	69.51
5	Transport	58.83
6	Paper	24.7
Total		1563.35

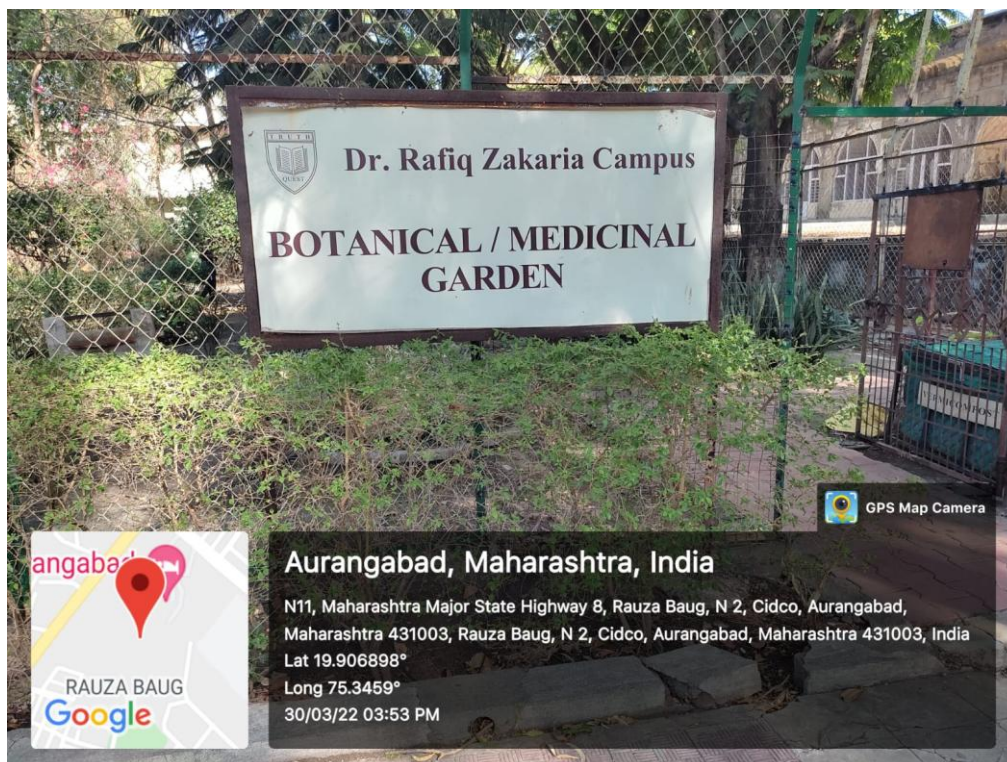
Table No. 3: Carbon Footprints of college campus

Carbon footprint study reveals that 1563.35 tons CO₂ are emitted within a year in the campus. Survey reveals that Plants present in the campus sequester about 227.610 tones of CO₂ per year. There is huge difference in CO₂ emitted and CO₂ Sequestered in the campus.

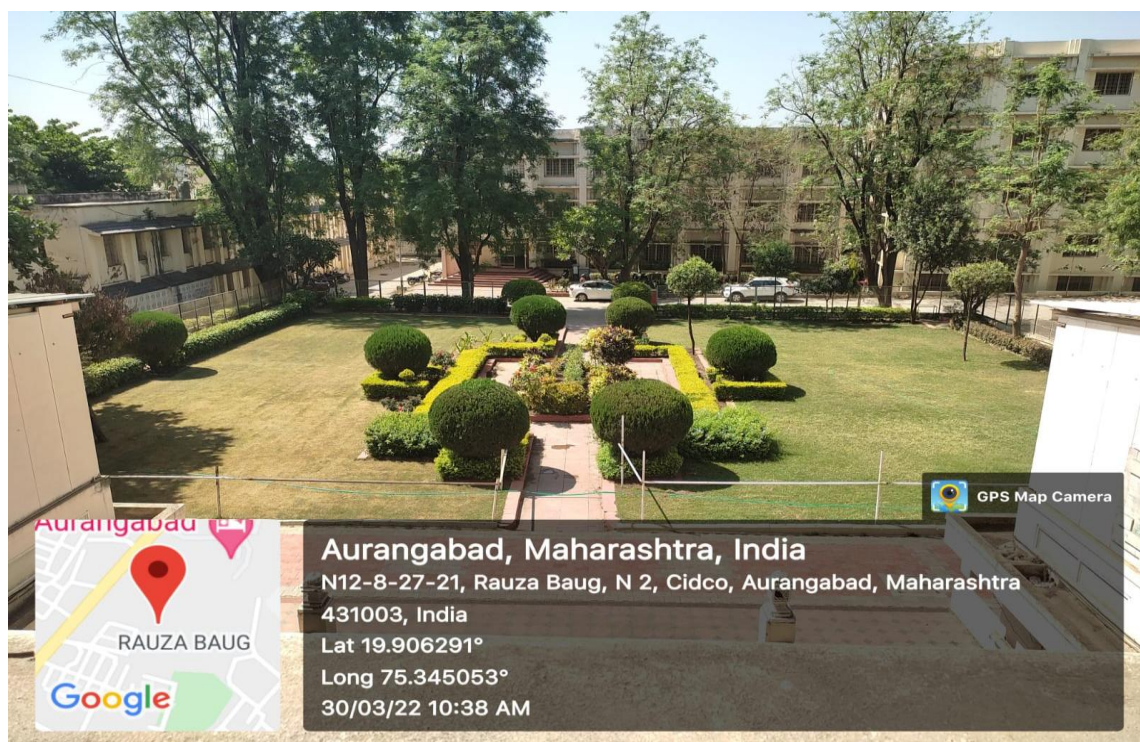
C. Plantation program throughout the year:

College arranges plantation program through NSS unit, Students & staff not only in college campus but in various village around Aurangabad like Dhopteshwar, Satara, Faridabad et.

which are adopted by our college for the sake of environment awareness. College has planted and maintained large number of plants through NSS unit.



A garden of medicinal plants has been established in the botanical garden of the Campus.



A butterfly garden (Shalimar Garden/Mughal Garden) has been established on the Campus



Dense Green Cover on the Campus makes this place the Lungs of Rauza Bagh.



Propagation and production of bee products through artificial bee hives



Plantation of medicinal plants in the College open area.

D. Establishment of oxygen park, plantation of ox rich plants

Our college has a beautiful green campus. We have skillfully planted the plants so as to have oxygen and make the campus fresh full of oxygen. The greenery has remained useful in developing Oxygen Park (Lungs of Rauza Bagh) in our college.

One 'Oxygen Park' has been established in the Botanical Garden of college in the year 2017-18. It is established in the area of 1000 sq ft. in which holy basil (Tulsi) has been planted.

College is also maintaining about 100 oxy-rich potted plants like *Croton*, Runner Palm, *Aloe vera*, *Diphenbekia*, *Sensevieria*, *Costus* (Insulin plant), *Chlorophytum*, etc.



E. 'No Smoking, No Tobacco' in campus area:

College is completely smoking and tobacco free campus. Students and staff members are aware about addiction. We have displayed the boards like 'No Smoking' 'No Tobacco', No Gutkha' etc. at several places in the campus for prohibiting from such habits.



F. Establishment of weather data centre in Campus:

The Campus houses the Maulana Azad College the Geology department along with the Chemistry department have facilities such as soil moisture measuring facilities and department of gemology along with expertise on ground water estimation. Average Temperature on Campus and Average Rainfall determination is routinely undertaken and shared with the Y B Chavan College of Pharmacy and other institution on campus.

- Average Temperature – 25.2⁰C /77.3⁰ F
- Average Rainfall – 777mm/ 30.6 inch

G. Display boards in college campus:

Various boards for increasing the awareness on the environment, noise control, tobacco free campus, conservation of energy, recycling of resources, tree plantation and environmental policy of college are displayed for all the stakeholders.

Boards of increasing awareness about ecofriendly attitude like 'SAVE ENERGY' 'SAVE TREES SAVE LIFE', 'वृक्षवल्ली आम्हा सोयरी' 'पर्यावरण वाचवा' etc. are displayed in the campus.



H. Eco-ventilators/Exhaust fans in laboratory and library:

All the laboratories and library are having good ventilation and exhaust fans.

I. Maintain data for flora of college campus:

Y. B. Chavan College of Pharmacy, Aurangabad is situated on Dr Rafiq Zakaria Campus which is a green campus, which comprises of following flora:

LIST OF PLANTS IN COLLEGE CAMPUS AND BOTANICAL GARDEN

Sr. No.	Botanical name	Common Name	Family	No. of Individuals
1.	<i>Acacia auriculiformis</i> A.Cunn. ex Benth.	Australian Babal	Fabaceae	12
2.	<i>Achras sapota</i> L.	Chikku	Sapotaceae	03
3.	<i>Adathoda vasica</i> Nees	Adulsa	Acanthaceae	03
4.	<i>Aegle marmelos</i> (L.) Corr.	Bel	Rutaceae	01
5.	<i>Allamanda cathartica</i> L.	Golden trumpet	Apocynaceae	01
6.	<i>Alstonia scholaris</i> . (L.) R.Br.	Saptaparn	Apocynaceae	42
7.	<i>Annona reticulata</i> L.	Ramphal	Annonaceae	03
8.	<i>Anthocephalus cadamba</i> (Roxb.) Miq.	Kadamb	Rubiaceae	05
9.	<i>Araucaria heterophylla</i> (salisb.) Franco	Christmas	Araucariaceae	01
10.	<i>Asparagus racemosus</i> Willd.	Shatavari	Asparagaceae	02
11.	<i>Azadirachta indica</i> Juss.	Neem	Meliaceae	49
12.	<i>Bambusa arundinacea</i> (Retz.) Willd.	Bamboo	Poaceae	04
13.	<i>Bauhinia purpurea</i> L.	Orchid tree	Leguminosae	03
14.	<i>Bauhinia racemosa</i> Lam.		Leguminosae	01
15.	<i>Bougainvillea spectabilis</i> Willd.	Kagadi ful	Nyctaginaceae	46
16.	<i>Butea monosperma</i> (Lam.) Taub	Palas	Fabaceae	01
17.	<i>Caesalpinia pulcherrima</i> (L.) Sw.	Sankasur	Fabaceae	07
18.	<i>Callistemon lanceolatus</i> (Sm.) Sweet.	Bottlebrush	Myrtaceae	02
19.	<i>Carica papaya</i> L.	Papaya	Caricaceae	02
20.	<i>Caryota urens</i> L.	Kithul	Arecaceae	02
21.	<i>Cassia auriculata</i> L.	Ranawara	Fabaceae	01
22.	<i>Cassia fistula</i> L.	Golden shower	Fabaceae	02
23.	<i>Casuarina equisetifolia</i> L.	Suru	Casuarinaceae	01
24.	<i>Chlorophytum laxum</i> R.Br.	Bichetii grass	Asparagaceae	01
25.	<i>Cocus nucifera</i> L.	Coconut	Arecaceae	02
26.	<i>Cycas circinalis</i> L.	Queen sago	Cycadaceae	05
27.	<i>Dalbergia sisso</i> Roxb. Ex. DC	Sisu	Fabaceae	02
28.	<i>Delonix regia</i> (Hook.) Raf.	Gulmohar	Fabaceae	08
29.	<i>Dombeya acutangula</i> Cav.	Bois Bete	Malvaceae	08
30.	<i>Dracaena fragrans</i> (L.) Ker.Gawl.	Mass Cane	Asparagaceae	01
31.	<i>Dypsis lutescens</i> (H.Wendl) Beentje & J. Dransf.	Butterfly palm	Arecaceae	98
32.	<i>Emblica officinalis</i> Gaertn.	Awala	Phyllanthaceae	01
33.	<i>Eucalyptus globulus</i> Labill.	Nilgiri	Myrtaceae	02
34.	<i>Ficus benghalensis</i> L.	Wad	Moraceae	02
35.	<i>Ficus benjamina</i> L.	Benjamin fig	Moraceae	05
36.	<i>Ficus elastica</i> Roxb.	Rubber tree	Moraceae	01
37.	<i>Ficus racemosa</i> L.	Cluster fig tree	Moraceae	01
38.	<i>Ficus religiosa</i> L.	Pimpal	Moraceae	01
39.	<i>Hamelia patens</i> Jacq.	Firebush	Rubiaceae	11

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40.	<i>Hibiscus rosa sinensis</i> L.	Jaswand	<u>Malvaceae</u>	06
41.	<i>Ixora coccinea</i> L.	Jungle geranium	<u>Rubiaceae</u>	05
42.	<i>Jatropha curcas</i> L.	Mogli erand	<u>Euphorbiaceae</u>	09
43.	<i>Lantana camara</i> L.	Tantani	<u>Verbenaceae</u>	01
44.	<i>Lawsonia inermis</i> L.	Hina	<u>Lythraceae</u>	01
45.	<i>Mangifera indica</i> L.	Amba	<u>Anacardiaceae</u>	07
46.	<i>Millingtonia hortensis</i> L.	Buch	<u>Bignoniaceae</u>	01
47.	<i>Mimusops elengi</i> L.	Bakul	<u>Sapotaceae</u>	32
48.	<i>Moringa oleifera</i> Lam.	Shevaga	<u>Moringaceae</u>	01
49.	<i>Murraya paniculata</i> L.	Kunti	<u>Rutaceae</u>	01
50.	<i>Nerium indicum</i> Mill.	Kaneri	<u>Apocynaceae</u>	10
51.	<i>Peltophorum pterocarpum</i> (DC.) Baker.	Copper pod	<u>Fabaceae</u>	02
52.	<i>Pithecellobium dulce</i> (Roxb.) Benth.	Vilayati chinch	<u>Fabaceae</u>	01
53.	<i>Plectranthus scutellarioides</i> (L.) R.Br.	Painted nettle	<u>Lamiaceae</u>	10
54.	<i>Polyalthia longifolia</i> (Sonner.) Thw.	Ashoka	<u>Annonaceae</u>	57
55.	<i>Prosopis cineraria</i> L.	Shami	<u>Fabaceae</u>	01
56.	<i>Psidium guajava</i> L.	Peru	<u>Myrtaceae</u>	01
57.	<i>Rauwolfia serpentine</i> L.	Sarpgandha	<u>Apocynaceae</u>	01
58.	<i>Ravenala madagascariensis</i> J.F.Gmel.	Traveller's palm	<u>Strelitziaceae</u>	03
59.	<i>Rosa indica</i> L.	Gulab	<u>Rosaceae</u>	05
60.	<i>Roystonea regia</i> H.B.&K	Royal palm	<u>Arecaceae</u>	28
61.	<i>Russelia equisetiformis</i> Schlecht & Cham	Fountain bush	<u>Plantaginaceae</u>	01
62.	<i>Samanea saman</i> (Jacq.) Merr.	Rain tree	<u>Fabaceae</u>	12
63.	<i>Santalum album</i> L.	Chandan	<u>Santalaceae</u>	01
64.	<i>Sapindus laurifolius</i> Vahl.	Ritha	<u>Sapindaceae</u>	02
65.	<i>Securinega leucopyrus</i> (Willd.) Muell.-Arg.		<u>Phyllanthaceae</u>	12
66.	<i>Spathodea companulata</i> P. Beauv.	Pichkari	<u>Bignoniaceae</u>	01
67.	<i>Swietenia mahagoni</i> L.	Mohagani	<u>Meliaceae</u>	03
68.	<i>Syzygium cumini</i> L.	Java plum	<u>Myrtaceae</u>	02
69.	<i>Tabernaemontana divaricata</i> (L.)R.Br.	Tagar	<u>Apocynaceae</u>	17
70.	<i>Tamarindus indica</i> L.	Chinch	<u>Fabaceae</u>	08
71.	<i>Tecoma stans</i> L.	Yellow trumpetbush	<u>Bignoniaceae</u>	10
72.	<i>Terminalia catappa</i> L.	Jangali badama	<u>Combretaceae</u>	01
73.	<i>Thuja occidentalis</i> L.	Morpankhi	<u>Cupressaceae</u>	04
Number of Individuals				615

Table No. 4: List of plants in main campus of college**LIST OF PLANTS IN NAVAL TATA STADIUM AND NEAR MILENIUM SPORTS CLUB.**

Sr. No.	Botanical name	Common Name	Family	No. of Individuals
1.	<i>Alstonia scolaris</i> (L.) R.Br.	White Cheesewood	<u>Apocynaceae</u>	55
2.	<i>Azadirachta indica</i> Juss.	Neem	Meliaceae	14
3.	<i>Ficus racemosa</i> L.	Umabar	Moraceae.	01
4.	<i>Limmonia acidissima</i>	Elephant- Apple	<u>Rutaceae</u>	01
5.	<i>Spathodea companulata</i> P. Beauv.	Pichkari	Bignoniaceae	55
Number of Individuals				110

Table No. 5: List of plants in Naval Tata Stadium and Near Millenium Sports Club.**LIST OF MEDICINAL PLANTS IN BOTANICAL GARDEN OF CAMPUS**

Sr. No	Botanical name	Common Name	Family	Use	Part Used	Habit
1.	<i>Costus igneus</i> N.E.Br.	Insulin plant	<u>Costaceae</u>	Anti-diabetic	Leaves	Herb
2.	<i>Bacopa monnieri</i> (L.) Pennell	Neerbhram i	<u>Plantaginaceae</u>	Mental functioning, including comprehension, memory, recollection	Leaves	Herb
3.	<i>Pterocarpus santalinus</i> <u>L.f.</u>	Raktachand an	<u>Fabaceae</u>	Antipyretic, anti- inflammatory, anthelmintic, tonic, hemorrhage, dysentery, aphrodisiac, anti- hyperglycaemic and diaphoretic	Wood	Tree
4.	<i>Hemidesmus indicus</i> (L.) R.Br.	Anantmool	<u>Apocynaceae</u>	Coolant and a blood-purifier	Root	Climber
5.	<i>Eclipta prostrate</i> L.	Maka	<u>Asteraceae</u>	Improve hair growth and colour	Leaves and stem	Herb
6.	<i>Rauwolfia serpentina</i>	Sarpagandh	<u>Apocynaceae</u>	High blood	Leaves	Shrub

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	(L.) Benth. ex Kurz	a		pressure and mental disorders including <u>schizophrenia</u>		
7.	<i>Abrus precatorius</i> L.	Gunj	<u>Fabaceae</u>	Fevers, coughs and colds	Leaves	Climber
8.	<i>Acacia catechu</i> (L.f.) P.J.H.Hurter & Mabb.	Khair	<u>Fabaceae</u>	<u>Sore throats, diarrhea</u>	Wood and Bark	Small tree
9.	<i>Stevia rebaudiana</i> Bertoni	Stevia	Asteraceae	Lower blood sugar	Leaves	Herb
10.	<i>Ocimum kilimandscharicum</i> Gurke	Kapoortulas	Lamiaceae	Lower fevers	Leaves	Herb
11.	<i>Swertia chirata</i> L.	Kadechitayat	Gentianaceae	Fever	All plant parts	Herb
12.	<i>Acacia concinna</i> (Willd.)DC.	Shikekai	Fabaceae	Hair tonic	Bark, leaves or pods	Climber
13.	<i>Terminalia achebula</i> Retz	Hirda	Combretaceae	Antibacterial and anticandidal activities	Seeds	Tree
14.	<i>Anacyclus pyrethrum</i> (L.) Link	Akkalkadha	Asteraceae	Treatment of men's diseases, common cold, toothache and pyorrhea	Roots	Herb
15.	<i>Vetiveria zizanoioides</i>	Vala	Poaceae	Antimicrobial, Antioxidant; Anti-inflammatory	Roots	Herb
16.	<i>Woodfordia floribunda</i> (L.) Kurz	Dhayati	Lythraceae	Effect on Tridosha: It balances Kapha and Pitta.	Leaves	Small tree
17.	<i>Ocimum basilicum</i> L.	Sabja	Lamiaceae	Headaches, coughs, diarrhea, constipation, warts, worms, and kidney malfunction	Seeds	Herb
18.	<i>Caesalpinia crista</i> L.	Sagargota	Fabaceae	Diabetes, malarial fever	Stem and leaves	Climber
19.	<i>Mentha piperita</i> L.	Papermint	Lamiaceae	Antispasmodic, irritable bowel syndrome	Leaves	Herb
20.		Triphala				Tree

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21.	<i>Bixa orellana</i> L	Bixa	Bixaceae	Antileishmanial and antifungal	All plant parts	Large shrub
22.	<i>Ocimum gratissimum</i> L.	Vaijayanti tulas	Lamiaceae	Antidiabetic	Leaves	Herb
23.	<i>Gmelina arborea</i> Roxb	Shivan	Lamiaceae	Leprosy, blood diseases and hallucination, piles, abdominal pains, burning sensations, fevers, 'tridosha' and urinary discharge.	Flower, root and bark	Tree
24.	<i>Holarrhena pubescens</i> Wall.	Pandhara kuda	Apocynaceae	Dysentery	Leaves	Small tree
25.	<i>Wrightia tinctora</i> (Roxb) R.Br	Kala kuda	Apocynaceae	Diarrhoea, piles, ringworm and other skin diseases	Bark and seeds	Tree
26.	<i>Strychnos nux-vomica</i>	Kuchala	Loganiaceae	Antidiarrhoeal activity	Stem	Small tree
27.	<i>Apodytes nimmoniana</i>	Narkya	Icacinaceae	Anti-cancer	All plant parts	Small tree
28.	<i>Acorus calamus</i> L.	Vekhand	Acoraceae	Asthma, sore throat	Leaves, stems and roots	Herb
29.	<i>Terminalia bellirica</i> (Gaertn.) Roxb.	Behada	Combretaceae	Skin disease, cough, asthma, cold cough	Leaves	Tree
30.	<i>Piper longum</i> L.	Lendi pimpali	Piperaceae	Cancer	Leaves	Climber
31.	<i>Carissa carandas</i> L.	Karvand	<u>Apocynaceae</u>	<u>Anaemia</u>	fruit	Shrub
32.	<i>Piper nigrum</i> L.	Kalimiri	<u>Piperaceae</u>	Skin disorders, itching	seed	Climber
33.	<i>Celastrus paniculatus</i> Willd.	Malkangan i	Celastraceae	Relax the nerves	Seed	Small tree
34.	<i>Cinnamomum zeylanicum</i> J.Presl	Dalchini	<u>Lauraceae.</u>	Cough	Bark	Tree
35.	<i>Coffea arabica</i> L	Coffee	Rubiaceae	<u>Asthma</u>	Bean	Shrub
36.	<i>Myristica fragrans</i> Huott.	Jaayphal	Myristicaceae	Dyspepsia, intestinal gases	Fruit	Tree
37.	<i>Pimento dioica</i>	Allspices	Myrtaceae	Anesthetic for tooth aches	Fruit	Tree

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38.	<i>Madhuca longifolia</i> (J.Konig) J.F.Macbr.	Moh	<u>Sapotaceae</u>	Arrest the excessive bleeding	Leaves	Tree
39.	<i>Garcinia indica</i> Choisy	Kokam	Clusiaceae	Indigestion, bloting and abdominal pain	Fruits	Tree
40.	<i>Gardenia resinifera</i>	Dikemali	Rubiaceae	Tooth tonic, <u>malaria</u>	Stem	Tree
41.	<i>Elaeocarpus ganitrus</i> Roxb	Rudraksha	<u>Elaeocarpaceae</u>	Typhoid, headache	Seed, Leaves, Bark	Tree
42.	<i>Citrus medica</i> L.	Mahalungi	<u>Rutaceae</u>	Abdominal colic, digestive disorders	Fruit	Tree
43.	<i>Ananus comosus</i> (L.) Merr.	Pineapple	Bromeliaceae	Antidiabetic and antioxidant	Fruit	Herb
44.	<i>Helicteres isora</i> L.	Murudsheng	Steralliaceae	Dysentery	Pod	Climber
45.	<i>Curcuma longa</i> L.	Halad	<u>Zingiberaceae</u>	Blood purifier, liver aliments	Rhizomes	Herb
46.	<i>Vitex negundo</i> L.	Nirgudi	<u>Lamiaceae</u>	Eczema, ringworm and other skin diseases	Root and leaves	Shrub
47.	<i>Curcuma caesia</i> Roxb.	Ambe halad	<u>Zingiberaceae</u>	Toothach, migraiane and epilepsy	Rhizomes	Herb
48.	<i>Gloriosa superb</i> L.	Kal lavi	<u>Colchicaceae</u>	Rheumatism and gout	<u>Rhizome</u>	Herb
49.	<i>Plectranthus amboinicus</i> (Lour.)	Coleus	<u>Lamiaceae</u>	Coughs	leaves	Tender
50.	<i>Cyperus scariosus</i> R.Br.	Nagarmotha	<u>Cyperaceae</u>	<u>Aromatherapy</u>	Roots	Herb
51.	<i>Ipomoea quamoclit</i> L.	Ganeshvel	<u>Convolvulaceae</u>	Weakness, Nervous debility, Loss of memory, Syphilis, Scrofula, Skin diseases,	Flowers	Climber
52.	<i>Semecarpus anacardium</i> L.f.	Biba	<u>Anacardiaceae</u>	Blood pressure, respiration, cancer and neurological disorders	Fruits	Tree
55.	<i>Commiphora wightii</i> (Arn.) Bhandari	Gugal	<u>Burseraceae</u>	Decreased <u>cholesterol</u> synt hesis in the <u>liver</u>	Bark	Tree
56.	<i>Canarium strictum</i> ROX B.	Dhup	Burseraceae	Bronchial diseases	Leaves	Tree

**LIST OF RECENTLY PLANTED MEDICINAL PLANTS IN COLLEGE
MEDICIANAL GARDERN**

Sr. No.	Common Name	Botanical name	Family
1.	Gunj	<i>Abrus precatorius</i>	Fabaceae
2.	Khair	<i>Acacia catechu</i>	Mimosaceae
3.	Shikekai	<i>Acacia concinna</i>	Mimosae
4.	Vekhand	<i>Acorus calamus</i>	Araceae
5.	Bael	<i>Aegle marmalos</i>	Convolvulaceae
6.	Saptarni	<i>Alstonia scholaris</i>	Apocyanaceae
7.	Akkalkara	<i>Anacyclus pyrethrum</i>	Compositae
8.	Kalmegh	<i>Andrographis paniculata</i>	Acanthaceae
9.	Citronella	<i>Andropogon nardus</i>	Gramineae
10.	Shatavaree	<i>Asparagus recemosus</i>	Liliaceae
11.	Brahmi	<i>Bacopa monieri</i>	Scrophulariaceae
12.	Daru halad	<i>Barberis aristata</i>	Berberideae
13.	Shendree	<i>Bixa orellana</i>	Bixaceae
14.	Punarnava	<i>Boerhavia diffusa</i>	Nyctaginaceae
15.	Senna	<i>Cassia angustifolia</i>	Fabaceae
16.	Mandukparni	<i>Centella asiatica</i>	Apiaceae
17.	Safed musali	<i>Chlorophytum boriviliam</i>	Liliaceae
18.	Kapoor	<i>Cinnamomum camphora</i>	Lauraceae
19.	Tamalpatra	<i>Cinnamon tamala</i>	Lauraceae
20.	Dalchini	<i>Cinnamumum zeylanicum</i>	Lauraceae
21.	Pashan bhed	<i>Coleus forskolii</i>	Lamiaceae
22.	Gugul	<i>Comiphora mukul/ c. Weightii</i>	Burseraceae

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23.	Turmeric	<i>Curcumma longa</i>	Zingiberaceae
24.	Lemongrass	<i>Cymbopogon citratus</i>	Poaceae
25.	Cultiv. Karinda/	<i>Dioscorea bulbifera</i>	Dioscoreaceae
26.	Vilayachee	<i>Elettaria cardamum</i>	Zinzibaraceae
27.	Amla	<i>Embllica officinalis</i>	Euphorbiaceae
28.	Clove	<i>Eugenia caryophyllus</i>	Myrataceae
29.	Shankhpushpee	<i>Evolvulus alsinoides</i>	Convulvulaceae
30.	Jestmadh	<i>Glycerrhiza glabra</i>	Leguminoceae
31.	Gudmar	<i>Gymnema syvestris</i>	Asclepiadaceae
32.	Vasaka	<i>Justicia adhatoda</i>	Acanthaceae
33.	Papermint	<i>Mentha piperata</i>	Labiataeae
34.	Japanese mint	<i>Mentha piperencense</i>	Labiataeae
35.	Pudina	<i>Menthe arvensis</i>	Labiataeae
36.	Pahadee pudina	<i>Menthe spicta</i>	Labiataeae
37.	Jayfal	<i>Myristica fragrans</i>	Myristicaceae
38.	Raan tulas	<i>Ocimum americanum</i>	Labiataeae
39.	Sabja	<i>Ocimum basilicum</i>	Labiataeae

Quick response (QR) Code: The plants in the College premises and Botanical samples in Pharmacognosy lab have been given a unique QR Code. The QR Code helps any individuals to access information regarding the plant/ Botanical sample on scanning with the Android/ iPhone/ Device

Beauty of Flowers in College Campus



Canna indica L.



Canna indica L.



Canna indica L.



Rosa indica L.



Rosa indica L.



Rosa indica L.



Gerbera jamesonii Hooker



Gerbera jamesonii Hooker



Gerbera jamesonii Hooker



Gerbera jamesonii Hooker



Catharanthus roseus L.



Catharanthus roseus L.



Tecoma stans L.



Tabernaemontana divaricata L.



Bellis perennis L.

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Chrysanthemum indicum L.



Gaillardia aristata L.



Verbena officinalis L.



Nerium indicum L.



Plumbago zeylanica L.



Polyanthes tuberosa L.



Lantana camera L.



Lantana camera L.



Lantana camera L.



Lantana camera L.



Ixora coccinea L.



Tecoma capensis Thunb.



Pentas lanceolata Forssk.



Pentas lanceolata Forssk.



Pentas lanceolata Forssk.

Plate No. 2



Ixora coccinea L.



Stachytarpheta jamaicensis L.



Pelargonium hortorum L.

Medicinal Plant Garden



Ficus carica L.



Aloe vera L.



Bryophyllum pinnatum L.



Cymbopogon citrates L.



Costus igneus N.E.Br.



Mimosa pudica L.



Asparagus racemosus L.



Datura metel L.

Plate No. 3

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Pelargonium hortorum L.

Ruta graveolens L.



Mentha spicata L.

Trachyspermum ammi Sprague

Curcuma longa L.



Withania somnifera L.

Piper nigrum L.



Ocimum gratissimum

Plate No. 4:

Wildlife-Birds



Squirrels

Plate No. 5

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Honey bees



Butterfly



Adulsa
Justicia adhatoda



White Chafa
Plumeria alba



Suru
Casuarina equisetifolia



Chitrak
Plumbago zeylanica



Takala
Cassia fistula



Mango
Mangifera indica



Chinch
Tamarindus indica



Indian almond
Terminalia catappa



Babul
Acacia arabica



Mango
Mangifera indica



Nilgiri
Eucalyptus globulus



Red Chafa
Plumeria rubra



Amla
Emblica officinalis



Peepal
Ficus religiosa



Silk cotton tree
Ceiba pentandra



Mango
Mangifera indica



Gold Mohar
Delonix regia



Agave
Agave sisalana



Agave
Agave sisalana



Jamun
Syzygium cumini



Ritha
Sapindus mukorossi



Katesavar
Bombax ceiba



Vad
Ficus benghalensis



Yellow oleander
Thevetia peruviana





Plate No. 7 and 8 Tress on Dr. Rafiq Zakaria Campus.

NOISE POLLUTION MANAGEMENT

A. Silence zones in college:

Various display boards are present in library, auditorium and other places for awareness to maintain silence in the college.

Display boards at-

Location	Display board
Library	
Auditorium	
Classroom	
Laboratory	

B. Noise control during any program in college:

Dr Rafiq Zakaria Campus is a vehicle free campus. Parking for vehicles are allowed in a separated area behind the main educational zone. The college has one huge gate for entry and exit of students. It is continuously monitored by the security guards. Entire campus, all class rooms, library & auditorium are under CCTV surveillance. This helps to keep the entire campus noise-free. In addition to this, security guards and members of Discipline Committee ensure smooth entry and exit of students without any noise and nuisance.



C. Controlling entry and exit of students and their discipline monitoring.

1. Our Campus has a huge main gate & another small gate near the administrative building wherein the DCB and HDFC extension counters exist. i.e., HDFC BANK LTD Gate. Similarly, the College has a large main gate and two exit gates. During the IQAC organized seminars, cultural shows and National & International Conferences, Workshops, Competitions, we use the main gate through which the students can come and go easily. Main gate has been divided into two gates, one for entry and other for exit. This helps to avoid the possible chaos during rush hours.
2. Besides, the campus is provided with pavements. Students are instructed to avoid stepping on green lawns and use the paved paths for walking on Campus. The Large circulation area in College and on Campus helps to avoid possible chaos during rush-hours.
3. We have the entry register for the visitors visiting our college. They have to register their name, time of entry and exit at the gate and then they are allowed to enter/leave the campus.
4. We have hired the security agency. Personnel of this agency in association with discipline committee of the college take care of all the security aspects including discipline in the campus. For this purpose, 10-15 security guards are in action every day including holidays on Campus.

D. Vehicle Free Campus and No pressure horns for vehicle:

The Campus is Vehicle free further in the Parking Area our college staff members and students do not use pressure horns and is not permitted to the students.



5. HUMAN HEALTH AND SAFETY MANAGAMENT

A. Group insurance for students:

To ensure the safety of the staff members, college has adopted the group insurance and accident insurance scheme. At the time of admission, as per guidelines of university, provision of group insurance to students is also in practice. Many students have been benefitted with this scheme in the past.

B. Periodic health check-up:

College organizes periodic health checkup for the students and the staff every year in association with the Health Aid Committee and Doctors from Government Medical College Aurangabad. Besides, as per guidelines of UGC and University, health checkup is compulsory to First Year UG & PG Students and Medical fitness certificates are sought by students.

The Health Aid Committee along with the NSS conduct check-up drives of various medical parameters like hemoglobin, Blood group, Blood Sugar, Blood Pressure, etc. for Students & Staff on various occasions like World Health Day, Aids Day, etc. College also organizes the blood donation camps in association with association with the GLOBAL Foundation, Government Medical College and Hospital Aurangabad. The College also received the Guinness World record for largest blood donation along with HDFC Bank Ltd. and other College on Campus.



Eye Check up Camp at the College organized by NSS and Health Aid Committee



Blood Donation Camp organized in Association of HDFC Bank Ltd and Government Medical College and Hospital Aurangabad.

C. Awareness campaign on human health:

College organizes Guest lectures, Workshops for Staff & Students to increase awareness about their health also NSS// Health Aid Committee Creates the Awareness with help of Street-plays during National Pharmacy Week NPW, Rallies etc. Every year NSS unit organizes a camp in nearby villages and plans to clean the village campus and various lectures are organized to create Awareness among villagers.

Some of the Awareness Campaign include Cancer Awareness in view of International Women's Day 2020, COVID-19 Awareness for non-teaching technical staff, COVID-19 Awareness for office staff, Week long Tuberculosis camp in association with AMC, Aurangabad, Dengue Eradication programs and many such programs conducted by our NSS volunteers and lectures series organized by Guest Lecture Committee.



Street Shows organized for Health Awareness during Nation Pharmacy Week by Student Volunteers of our College

D. Sanitary napkin-vending machines in ladies' room:

These are available in girl's Girls common room. The use of sanitary napkins is very important for girl students and ladies' staff for maintaining their health hygiene.

E. Yoga / Meditation for student and staff:

College campus provides the facilities of indoor and outdoor stadium for the students, staff and the citizens of Aurangabad. The Campus sports faculty provides proper guidance and we are motivated to do the daily exercise of Yoga / Meditation in the college. Periodically Yoga campus are organized and the instructor explains the importance & yoga for healthy & free life also exhibited different poses in yoga

F. Awareness campaign for Society:

NSS & Students from the Cultural Committees of our college regularly arrange street-plays and rallies for increasing awareness in society on Dengue and other diseases. Besides,

awareness campaigns against communicable diseases like AIDS, TB, etc. are conducted in coordination with Aurangabad Municipal Corporation. College also tries to increase the awareness on such and other social issues through competitions like poster-presentation, wallpapers, etc. Further during the COVID-19 Pandemic situation various awareness programs were conducted on online and offline mode for the Society at large. The College also conducted a very large COVID vaccination drive along with the other colleges on the Campus.

G. Arranging Blood donation and Medical Check-up Camps:

The NCC unit along with the health aid committee organizes blood donation camps in association with Global Medical Foundation as well as the Government Medical College and Hospital, Aurangabad. Medical Check and Eye Check up Camps have also be organized for the staff and students of the College. The College has been a joint recipient of mention in the Guinness book of world record for organizing blood donation camp along with IHM Bank Ltd.



Pulse Polio Drive by our NSS Volunteers in Aurangabad City.

H. Fire safety:

Fire extinguishers have been provided on every floor and in the Library/ Laboratories as well as near electric panels in the College. For safety of students and to minimized hazards fuming chambers, showers and sprinklers have been provided near the Pharmaceutical Chemistry

Department along with fire alarm system.



Demonstration of Emergency Services and Awareness drive on Campus in Association with Fire Control and Control Department, Aurangabad

I. SOPs on safety in laboratory and first aid box:

All the laboratories are equipped with SOP's, Do's Don't' for the laboratory safety. The College conducted regularly Disaster Management Workshop to trained students for first aid and emergency treatment in various Disaster situations. First aid boxes are fixed in administrative office and indoor stadium & all laboratories of the college.

J. Emergency phone numbers:

All the emergency phone numbers are displayed at the entrance.

Sr. No.	Office	Contact No.
1.	Principal	9823283334
2.	Office of the College	0240-2381129
3.	Helpline Number	112
4.	Ambulance Helpline Number	108/102
5.	Police Helpline Number	100
6.	Fire Helpline Number	101
7.	Blood Bank helpline Number	1910
8.	Women Helpline Number	181/1091
9.	Child Helpline Number	1098
10.	Railway helpline number	1512
11.	Electricity Helpline	1912
12.	Kissan Helpline	1551
13.	AIDS Helpline	1097
14.	Air Ambulance Helpline	9343180000
15.	Aurangabad Municipality Helpline	0240-2334127
16.	Eye Donation and Eye Bank information	1053
17.	COVID Helpline	1075

Table No. 7: Important Phone numbers

K. Controlled area for storage of hazardous chemicals:**Instructions -**

- **Safety work instruction when using hazardous chemicals**
 - While using hazardous chemicals Don't eat, drink, food beverages & wait until your work is done. You need wash your hands clean & neat.
 - Make sure you know where the nearest firefighting equipment is located.

- The Hazardous substances should always be in accordance with the M.S.D.S. specification.
- Only use the product for its intended purpose never misuses the product for anything other than its intended purpose.
- **Personal chemical safety rules:**
 - Wear gloves & protective glasses (Safety goggles) wherever necessary while handling hazardous chemicals.
 - Follow instructor's guidelines.
 - Proper disposal of chemical wastes.
 - Strict use of apron / lab-coat in the laboratory.
 - Strict use of safe-shoes.

6. SOIL POLLUTION MANAGEMENT:

A. Vermi-compost unit in Campus:

Use of Bio-fertilizers is eco-friendly and economy method to raise the plants in natural habitats. In connection with this, our college has established two vermi-composting units in the campus. Biodegradable wastes like garden foliage, waste food, etc. are decomposed in these units to produce good quality vermin-compost. This compost is used in the college garden.

The details of the vermi-composting units are given as follows –

- Establishment Year: June, 2012
- Size: 7x10 feet & 5x7 feet
- No. of vermi-composting beds: 02
- Production capacity: 2 Tons approx/Year.

B. Effluent Treatment Plant (ETP) –

- Our college has a facility of effluent treatment plant (ETP) for effluent from the Pharmaceutical Chemistry department Effluent collecting tank filled completely it is taken for processing. The effluent is stirred with overhead electric motor and mixing with a solution of potash alum for coagulation. Then a solution of calcium hydroxide is added to adjust the pH in the range of 6-7. After adjusting the pH, effluent is lifted in an overhead tank for coagulation and sedimentation for 4 - 5 hours.

- After 5 hours settlement, the sludge settled down at the bottom is taken in a separating tank and supernatant liquid is collected in another tank and mixed with the solution of sodium-oxy-chloride as germicide.
- This liquid is allowed to pass through two filters having activated charcoal as molecular sieves. Resultant clean water is collected in another tank and used for gardening.



C. Rain water harvesting:

Our college is having rain water harvesting system to conserve the rain water. The earth water level is increased with Rain water harvesting which helped to have water to our college boar. It increases natural storage of water, and helps the college in getting water for various purposes.

The college has established a rainwater harvesting unit in the year 2006. This underground plant is at the end of the Campus. The rainwater harvesting system is planed in such a way that the water from all round the campus collects around the rain water bed due to the nature slope prevalent in the campus. The water so collected during the monsoon helps maintain the well filled to capacity through out the year. These well help cater to the needs of the Campus as well as the needs of the people and animal in the locality around the campus.

Water Harvesting on Dr Rafiq Zakaria Campus



Total Supply and Consumption of Water by Campus

Source	Quantity Supplied (Liters)/Year	% of Supply/Year
Well	315,80,000	75%
Bore well	84,21,333	20%
AMC	21,05,333	5

Table No. 8: Water consumption

Purpose of Consumption – Drinking water, Toilets, Laboratories, Bathing and Toilet water for Hostels, Irrigation for college garden etc.

Water Purifiers from College -

Sr. No.	Place	RO/UV	Number	Capacity
1	College Building	RO	01	250 Liters
2	Hostel	RO	01	250 Liters
3	Water points on each floor of Campus	Electrical Cooling and Heating	05	20 liters each

Table No. 9: Details of Water purifiers

D. Plastic free environment:

Attempt of our college is to keep the campus free from plastic as much as possible. We increase the awareness amongst students and staff members regarding the same by display boards and other programs.

At present our college does not have plastic dumping yard in the campus. But, college has made available the Penguin-dustbins and other types of dustbins to collect plastic and garbage in the key-places like girls’ waiting room, administration building, girls’ hostel, Auditorium, etc.

Plastics are reused if any in the College as far as possible, awareness programs such as best of plastic waste etc are organized periodically.



7. OTHER SECTORS FOR ENVIRONMENT MANAGEMENT:

Three-tier approach of waste management

A. Waste management:

Chemicals and e-waste

College has a facility of ETP plant for effluent from Pharmaceutical Chemistry department.

e-waste –

- The College has MOU with E-RECON RECYCLING having its office at Chikalhana, Aurangabad (M.S)
- E-Waste materials are kept in separate stores prior to recycling by E-RECON Recycling
- All the departments are instructed to submit the information of the damaged or out-dated computers, CDs and other e-equipments.
- These e-waste equipments are sent to the college central store.
- Sorting of e-waste is done by central store.
- These e-equipment are sold out by means of a tendering process.

Sr. No.	Department	Floor	In Working	
			Computer/Lab Tops	Printer
1	Pharmaceutical Chemistry (UG)	G	02	-
2	Pharmaceutical Chemistry (PG)	G	04	01
3	Administrative Office	1	06	05
4	Pharmaceutical Microbiology Lab	1	01	-
5	Quality Assurance Lab	1	04	01
6	Machine Room	1	08	-
7	Pharmacognosy Lab	2	01	-
8	APHE Lab	2	01	0
9	Library	2	08	02
10	EOC (Dr Shaheed Sirs Cabin)	2	01	0
11	Vice Principal Cabin (Dr S. N Mokale)	2	01	01
12	Pharmaceutics Research Lab	3	02	-
13	IQAC (Dr Dehghan M H)	3	02	01
14	IIC and Placement Cell (Dr Lahoti)	3	01	01
15	IIC	3	01	01
16	HOD Pharm Chemistry	3	01	01
17	Computer Lab	3	50	01
18	Exam Department	3	02	02
19	Stores	3	01	01
20	Faculty Cabins (4)	3	05	00
21	Class rooms (Smart Class room/Seminar Hall/ Tutorial Room)	2/3/4	09	00
22	Auditorium	3	01	
	TOTAL	-	112	18

Table No. 10: List of computers and printers in college.

B. Use of solar energy – Solar Lighting

The Solar panels installed on the College building and particulars are expounded below:

A) Photovoltaic Panel College building

Sr. No.	Particulars	Specifications	Quantity	Capacity
1	Suppliers Wonder Electrical Aurangabad	250 W multi-crystalline Solar Panels (YINGLI Solar Make) 3 phase 10kw Grid-tie Roof Top Solar inverter.	40 x 250 W	10 KW

Table No. 11: Details of Photovoltaic Panel YBCP College building.



Solar panels installed in college campus

College Building: 10kW (net meter) (Approximately Rs-10,000/- saved per month)

C. Use of LED bulbs in college:

Principal’s Office, Office of IQAC, Administrative Office, Library, Auditorium, Guest Rooms, Indoor Stadium, Ladies Common Room, Virtual Classrooms, Language Lab, Computer Labs, Science Lab, Departmental Offices, and all classrooms have LED bulbs to save energy.

Sr. No.	Particular	Total
1	Fluorescent Tube lights	90
2	Tube light LED (24W)	80
3	LED light (22W)	101
4	LED light (15W)	80
5	CFL	60

Table No. 12: List of tube-lights and bulbs.

D. Conducting energy audit:

Last energy audit was conducted for March-2016. In near future, we are about to conduct energy audit of our college. It will help us in maintaining our energy use in the college campus.

E. Dustbins in the premises:

Dust-bins have been kept in the college at several places. Waste collected in those bins is disposed-off at regular intervals with the help of garbage-disposal vans of the municipality.

Each laboratory and department is provided with dustbins. This helps to maintain the campus garbage-free.

Approximately, 210 dust bins are in use in the college campus.

F. Waste control in canteen:

There are two types of waste

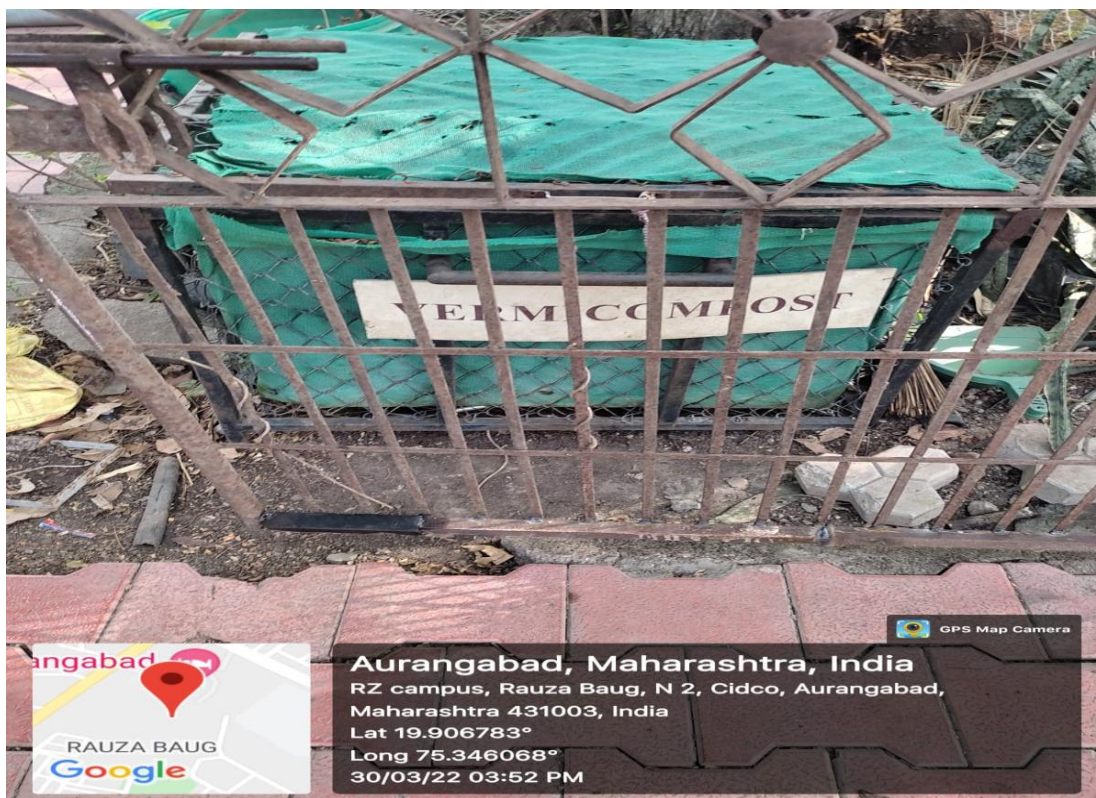
- Dry waste
- Wet waste

Dry waste –

- Non-biodegradable material such as Plastic wrappers and bags, broken glass pieces, dishes, etc.
- Biodegradable material such as Paper cups, Paper dishes etc. Dry waste is collected by waste pick-up van.

Wet waste –

Wet Waste especially from kitchen, such as vegetable refuses; food scraps etc. are disposed-off in biogas and Vermi-compost plant.



G. No uses of plastic in canteen:

College canteen uses paper plates & cups, newspapers, utensils so as to control the uses of plastic in the college campus. It has helped in keeping the campus plastic free.

H. Use of dust proof chalks:

All the classrooms and laboratories are fitted with green and white boards with dust free chalks and marker pens.

I. Minimum use of Photocopy/printing:

In college Maximum data is converted into soft copies and procedures are digitalized which minimizes the use of printing papers. We also put warning stickers on each Photocopy/ Printing machine to use. The maximum working procedures are paperless. We take the already one-sided Photocopy papers in use to avoid the maximum use of papers.

10. Interpretation and Outcome of the Audit- SWOT Analysis

Strengths, weaknesses, opportunities and threats (SWOT) analysis is a standard tool in decision-making and planning. It is an efficient method for identification and analysis of strong and weak points and for examining the opportunities and threats in a certain domain. Strengths and weaknesses of a system are determined by internal elements whereas external forces dictate opportunities and threats. Advantages of SWOT analysis include simplicity in

understanding, ease in use, and efficiency. It is recognized that if correctly applied, SWOT is an appropriate technique for identification of recommendations for organizations. In the given case, SWOT analysis was conducted to analyze the existing gaps and to prepare a comprehensive environmental management plan for the College.

A thorough assessment of the existing situation was conducted through the various parameters defined for SWOT analysis and the opportunities and weaknesses were then built into the plan. This analysis helped to provide a logical framework for analysis of the given situation and design strategies and tactics that were in tandem with accessible resources as well as technical competency. Through this analysis, the team was able to account for the existing environment-friendly initiatives at the college, and prepare a plan that will benefit in planning the proper use of resources in future.

It has been used in this given study with an aim to see how the EMS to be implemented should be shaped in order to take into account the existing concerns related to environment.

SWOT analysis has been conducted based on the initial environmental review and results show that the college has a lot of strengths which it can build upon during implementation of the Environment Monitoring and Planning. Weaknesses and threats have also been identified for which remedial action can be taken through the Environment Monitoring and Planning through the EAC. The SWOT analysis serves as the foundation for drafting the environment policy of the Y B Chavan College of Pharmacy, Aurangabad.

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Strength, Weaknesses, Opportunities and Threats Analysis (SWOT)

Domain	Strength	Weaknesses	Opportunities	Threats
Green Office (Environment Monitoring and Awareness Committee/ Environmental awareness program)	College engaged in environmental awareness programs for staff and students by delivering expert lectures, street plays, poster & model Presentation. Institute conducts environmental awareness programs amongst the students and society through NSS and cultural Committee	Partial establishment of Green Office concept.	Green Audit can be done every year. Full establishment of Green Office. The blue print of five years eco-friendly campus plan to be prepared.	
Domain	Strength	Weaknesses	Opportunities	Threats
Legislation/ laws	Institute is following all necessary laws and ethics in context to environment protection.		Green Office concept may help in this regard.	
Domain	Strength	Weaknesses	Opportunities	Threats
Energy	We use energy efficient systems, Energy-saving practices like use of natural light, LED lamps, renewable energy like solar systems.	CO ₂ emission due to consumption of energy has not been taken into account.	Maximum utilization of renewable energy. Complete replacement of CFL by LED bulbs.	Use of fuel-powered electricity generator during power-outage hours causes air pollution.

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	All buildings of campus are naturally well ventilated & illuminated. Building design prevents heating during summer. Naturally operating roof-top exhausts are installed wherever necessary.			
Domain	Strength	Weaknesses	Opportunities	Threats
Water	We have rainwater harvesting system with good capacity. Institute is providing drinking water to students and staff purified with RO system and cooled with water coolers.	Partial availability of waste water management. We do not have water-recycling facility at our hostels. Use of RO based water purifiers generates large quantity of waste water.	The wastewater treatment facility can be developed. Waste water to be used for landscaping purpose. Water consumption monitoring system may be installed at every node. Use of IR water-purifiers instead of RO based purifiers.	Aurangabad is located in rain-shadow region. Due to less rain-fall, water shortage is a constant threat in common.

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Domain	Strength	Weaknesses	Opportunities	Threats
Waste	<p>We have ETP installed to treat waste water generated in pharmaceutical chemistry laboratories</p> <p>Solid waste is decomposed in the form of vermi-compost.</p> <p>Maximum reuse of papers is in practice. Waste paper is sold to the agencies with assurance of recycling</p>	<p>No availability of treating the bio-waste water generated in microbiology laboratory and Pharmacology Laboratory except incineration at present.</p>	<p>Vermi-compost plant can be operated on large scale</p> <p>Waste segregation can be carried out and paper waste generated at campus may be recycled.</p> <p>Concept of paperless administration may be implemented as e-governance policy.</p>	<p>Accidental leakage/spill of hazardous waste from microbiology laboratories and pharmacology laboratories (Animal house) may cause some problems. Thus External Biowaste Disposal Agencies may be hired.</p>
Domain	Strength	Weaknesses	Opportunities	Threats
Biodiversity	<p>Out of 16 acres of campus 8 acres are under canopy</p> <p>Institution has developed lush green campus by planting large number of plants around 500 plants with QR Code.</p> <p>Plantation of the campus absorbs around 230 tons of CO₂ emitted by</p>	<p>Plantation is not adequate as compared to carbon foot print</p> <p>Non availability of additional space for plantation</p>	<p>Concept of green roof can be implemented in the Campus.</p> <p>Development of biodiversity park, hanging garden and seed & gene bank</p>	<p>Limited space availability for plantation in proportion of increasing number of students. Due to this, CO₂ sequestering cannot be done to the expected limit.</p>

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	<p>various sources.</p> <p>Bird nesting sites, fernery and medicinal plant garden has been established.</p> <p>We celebrate the birthdays as well as welcome the guests by offering them plantlets/saplings.</p> <p>On occasion of inauguration of any program, we water the potted plants instead of lighting the oil-burning diya.</p> <p>We have established the butterfly garden in which huge variety of butterflies is attracted due to the nectar and host plants.</p> <p>Also establishment of Artificial Bee hives for propagation of variety of honey bees.</p>		<p>Indigenous plants should be planted on large scale</p>	
Domain	Strength	Weaknesses	Opportunities	Threats
Air quality & transportation	The Campus is a Vehicle free thus noise free, pollution free campus.	Staff and students use fuel powered individual	Car & bike sharing, maximum use of bicycle,	Increasing tendency of students towards use of

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	<p>We have satisfactory plantation in the campus that help to sequester the emitted CO₂ to the maximum limit. Besides, our botanical garden has oxygen park where we have large number of oxygen emitting plants like holy basil, croton, etc.</p>	<p>vehicles. Lack of public transportation system from bus-stand to college.</p>	<p>and observing no-vehicle day at regular intervals PUC check-up camp can be arranged at regular intervals. Attempts to start the public transport system between bus-stand and college. Allowing only the vehicles with BS-IV stage compliance in the campus.</p>	<p>fuel-powered vehicles is a measure threat. This may lead to increased CO₂ emission. Use of fuel-powered electricity generator during power-outage hours causes air pollution.</p>
Domain	Strength	Weaknesses	Opportunities	Threats
Community	<p>NSS unit of the college arranges winter-camps in various adopted villages from Aurangabad and Nearby Gangapur tehsil and undertakes various programs like tree-plantation, cleanliness drive, organic farming, and health awareness camps etc.</p>	<p>Number of villages adopted by college appears to be less as compared to the number of students enrolled in college. (Only 2 units)</p>	<p>Adopting more villages under recently launched scheme- ‘Unnat Bharat Abhiyaan’ and trying to make more eco-friendly villages.</p>	<p>Students participating in such activities may suffer in their academic study-time.</p>

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	<p>which are helping in improving the environment value of those villages.</p> <p>NSS volunteers participate National Pharmacy Week Programs and spread awareness about cleanliness, ill-effects of plastic, addiction, etc. through street-plays.</p> <p>NSS Volunteers participate in cleanliness of Historical Sites in and Aurangabad like Delhi Gate, Daulatabad Fort etc.</p> <p>NSS volunteers help the local police and public health department by arranging and participating in ‘Road-safety’ drives, Pulse-polio drive, blood-donation camps, etc.</p>			
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11. Future Plan

- Establishment of Green Office Concept.
- Green audit should be carried out more frequently.
- The blue-print of five-year plan should be prepared for eco-friendly campus
- Establishment and implementation of policy to overcome increased use of smart phones in the campus in order to avoid IR emission.

Environmental domains

Air management

- Appeal will be made to students and staff for maximum use of shared transportation facility.
- Use of public transport is encouraged.
- College will encourage the students & staff to use bicycles. 'Cycle-Day' will be observed with a frequency of once in a month.
- Tree plantation has been planned in five villages adopted under the scheme 'Unnat Bharat Abhiyan' started by MHRD now MoE.
- PUC check-up camp is planned in the October-2018 for the vehicles coming in the college campus. This camp will be arranged in association with RTO, Aurangabad and local vehicle agency.
- Street-play will be arranged in association with cultural department of our college to increase the awareness against air pollution.
- As a part of students' project under the compulsory subject-Environmental Awareness, we are planning to allot the survey projects on various topics like use of chulha, eco-friendly agricultural practices, water, soil, air and noise pollution, etc. to the second-year students of undergraduate program.
- We are contemplating the idea of making it compulsory to plant the five trees by the first-year students and look-after those till completion of their graduation.
- College can arrange various programs like street-plays, eco-weeks, no-vehicle day, poster presentation, model preparation, quiz competition to increase environmental awareness among the students & society on world environmental day.

Noise Management

- Establishment of noise pollution measurement system in college.
- Use of microphones, ICT rooms will help in noise management.
- Silence Zone can be created around the college so that horn-honking, use of loud-speakers will be prevented in and around the campus.

Human Health and Safety

- Yoga/Meditation for staff/ Students at least once in a week
- Health centre will be established in the campus.
- Awareness campaign on human health & organ donation for students, society & Staff.
- Blood donation camps will be arranged on more occasions.
- BMI check up for students and staff.
- Conducting Fire Safety Audit
- Controlled area for storage of Hazardous chemicals
- Fire alarm in college campus.
- MoU with hospitals.
- Minimal use of hazardous chemicals.

Soil /Water Pollution Management

- Implementation of water management and recycling program with full efficiency.
- Monitoring system for consumption of water can be installed at every node.
- Rain water harvesting mechanism has to be implemented at large scale.
- Establishment of separate Plastic Dumping yard in college.

Energy management

- Quantitative targets would be undertaken for reduction in energy consumption.
- To adopt various energy saving policies such as Promoting use of renewable energy, five star rated energy saver equipment / instruments etc.
- Energy generation through installation of solar panels and wind mills will be undertaken.

Waste management

- Priority will be given to eco-friendly brands followed by those that are recyclable or made from recycled material for purchases.
- Use of paper cups will be discouraged and people will be motivated to use their own mugs/cups instead of paper cups.

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- Use of paper cups will be discouraged and people will be motivated to use their own mugs/cups instead of paper cups.
- On-campus use of plastic bags will be discouraged.
- Paper usage will be minimized in various ways. Double-sided printing option can be used at all terminals with access to printers.
- Communication will be encouraged through social media like WhatsApp to minimize the paper use.
- Waste segregation will be carried out strictly; organic waste will be composted in-house (biological treatment has proposed for biodegradable waste) in future and the manure will be used for the gardens in the campus.
- E-waste management program can be implemented more effectively by various practices like e-paper office, use of ICT, single window system, etc.
- Dust-bins will be kept in each class-room.

Date: May 30, 2022



Chairman,
Green Audit Committee

W.C. Principal
Y.B. Chavan College of Pharmacy
Aurangabad



[Co-ord Green & Environment
Audit]



APPROVED



R. M. JAIN