4

GREEN AUDIT REPORT (2011-2021)

Of

S.T.U.S. Mandala's
Sangola College, Sangola
Tal.-Sangola Dist.- Solapur

Auditor
Mr. M. K. Tamhane
Forest Officer
Sangola Division Solapur
Dist.-Solapur

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Tree Plantation and Observation Committee

Name	Signature
1. Dr. R. R. Tembhurne (Assistant Professor)- Chirman	
2. Dr. S. R. Bhosale (Professor)	
3. Dr. B. S. Gaikwad (Assistant Professor)	
4. Prof. S. S. Kamble (Assistant Professor)	
5. Dr. B. G. Pawar (Assistant Professor)	
6. Prof. S. N. Shinde (Assistant Professor)	
7. Prof. S. G. Patil (Assistant Professor)	
8. Mr. A. U. Sakhare (Cleark)	
9. Mr. Sunil Shinde Laboratory Attendant	

Certificate

This is to certify that the data embedded in this audit report is factual and based on the physical observations. Wherever possible supporting documents are provided. This green audit is an attempt to inspect the various parameters related to green audit and to implement the suggestions given by the auditors.

Dr. Tembhurne R. R.

Audit Co-ordinator

Sangola College, Sangola
SANGOLA Pin 413307
Tal. Sangola (Solapur)

Principal

(Dr. Madhusudan Bachute)

Sangola College, Sangola

Principal
Sangola College, Sangola
Tal. Sangola Dist. Solapur

Certificate

This is to certify that Sangola Taluka Uchcha Shikshan Mandal's, Sangola College, Sangola has conducted the green audit of its campus. It has submitted the essential data and documents for inspection. The attempt made towards maintaining the campus green and pollution free are satisfactory. Tree plantation, waste management, water conservation, and electricity saving activities are worth noting.

Auditor

Tamhane

Mr. M. K. Tamhane

Range Forest Officer, Sangola (SFD)

वनक्षेत्रपाल
सामाजिक वनीकरण
सांगोला

College is situated away from the city, on a barren land. There is no industrial zone near by the college so there is a minimum problem of air pollution. The college campus is clean or free from pollution. The department of Botany has done the green audit of campus.

Year Wise Tree Plantation (2011-21)

Years	Number of Medicinal Plants	Number of Angiospermic Plants)	Total
2011-12	4	16	20
2012-13	20	60	80
2013-14	23	80	103
2014-15	26	247	273
2015-16	29	390	390
2016-17	80	491	571
2017-18	04	06	10
2018-19	03	08	11
2019-20	01	18	19
2020-21	20	52	72

Medicinal plants are less as campared to angiospermic plants in the campus. So college has decided to plant more medicinal plants in future.

List of Medicinal and angiospermic Plants

Tree Plantation 2020-21

Sr. No's	Botanical Name	Common Name	Family	Number of species
1.	*Hymenocallislittoralis*Jacq.	Spider Lily	Amaryllidaceae	02
2.	*Portulacagrandiflora*Hook	ChiniGulab	Porchulacaceae	05
3.	*Dracaena fragrans*(L.) Ker Gawl.	Dracaena	Asparagaceae	10
4.	*Juniperuscommunis*L.	Juniperus	Cupressaceae	05
5.	*Cupressussempervirens*L.	Cyprus Gold	Cupressaceae	05
6.	*Rosa alba* L.	Rose	Rosaceae	02
7.	*Bougainvelliaspectabilis*L.	Kagdiphul	Nyctaginaceae	10
8.	*Hyophorbelagenicaulis* (L.H.Bailey) H.E.Moore	Bottle Palm	Arecaceae	05
9.	*Artocarpusheterophyllus*Lam.	Phanas	Moraceae	02
10.	*Ixoracoccinea*L.	Ixora	Rubiaceae	06
11.	*Spathodeacampanulata* P.Beauv.	Pichkari	Bignoniaceae	10
12.	*Swieteniamacrophylla* King	Mohagani	Meliaceae	05
13.	*Casia fistula* L.	Bahawa	Fabaceae	02
14.	***Buteamonosperma***	Palas	Fabaceae	03

	(Lam.) Taub.			

Tree Plantation 2019-20

Sr.no.	Scientific name	Common name	No.of plants
1	***Bambusavalgaris***	Bamboo	7
2	***Emlicofficinalis***	Amala	7
3	***Hardwikia binate*Roxb.**	Anjan	7
4	***Pongameapinnata***	Karanj	7
5	***Dolicandronfalcata seem.***	Medshingi	7
6	***Albizialebbeck (L.) Benth***	Seras	7
8	***Cassia fistula L.***	Bahava	7
9	***Syzygiumcucumi (L) Skeel.***	Jambhul	7
10	***Bahuniaverigata (L) Benth***	Kanchan	7
11	***Buteamonosperma (Lamb)taub.***	Palas	7
12	***Neolamarckiacadamb***(Roxb.) Bosser	Mahadung	7
13	*SamaneasamanF.Muell.*	Rain tree	7
14	***Senegalia catechu*** (L.f.) P.J.H.Hurter&Mabb.	Khair	7
15	***Gmelinaarborea***Roxb.	Chivan	7
16	***Terminaliaarjuna***(Roxb.) Wight &Arn.	Arjun	7
17	***Prosopis cineraria* L.**	Savandad	7
18	***Carissa carandas***L.	Karvand	7
19	***Abrusprecatorius***L., 1753	GunJ	7

Tree Plantation 2018-19

Sr. No's	Botanical Name	Common Name	Family	Number of species
1.	***Bahuniaverigata*(L) Benth**	Knchan	Fabaceae	**07**
2.	***Neolamarckiacadamb***(Roxb.) Bosser	Mahadung	Bignoniaceae	**07**
3.	***Samaneasaman***F.Muell.	Rain Tree	Fabaceae	**07**
4.	***Senegalia catechu*** (L.f.) P.J.H.Hurter&Mabb.	Khair	Fabaceae	**07**
5.	***Gmelinaarborea***Roxb.	Chivan	Lamiaceae	**07**
6.	***Terminaliaarjuna***(Roxb.) Wight &Arn.	Arjun	Combrataceae	**07**
7.	***Prosopis cineraria* L.**	Savandad	Fabaceae	**07**
8.	***Carissa carandas***L.	Karvand	Apocynaceae	**07**
9.	***Abrusprecatorius***L., 1753	Gunj	Fabaceae	**07**
10.	***Acalyphawilkesiana***Müll.Arg.	Copper Leaf	Euphorbiaceae	**50**
11.	***Tecomastans*** (L.) Juss. ex Kunth	Yellow Bell Flower	Bignoniaceae	**61**

2017-18

Sr. No's	Botanical Name	Common Name	Family	Number of species

1.	***Spathodeacampanulata*** P.Beauv.	Pichkari	Bignoniaceae	01
2.	***Prunuscerasus*** L. 1753	Cherry	Rosaceae	01
3.	*Annonareticulata* L.	Ramphal	Annonaceae	03
4.	***Clitoriaternatea*** L.	Gokharn	Fabaceae	05
5.	***Alstoniascholaris*** (L.) R.Br.	Saptaparni	Apocynaceae	02
6.	***Cymbopogoncitratus*** (DC.) Stapf,[19] 1906	GavatiChaha	Poaceae	05
7.	*Aegelmarmelos* L.	Bel	Rutaceae	05
8.	***Bentycarneacurvata*** Lem.	Elephant Palm	Aspargaceae	06
9.	***Calotropisgigantea***	Rui	Asclepidaceae	02
10.	***Balanitisroxberga*** Planch.	Hingot	Zygophylaceae	15

Tree Plantation 2016-17

Sr. No.	Botanical Name	Common Name	Family	Number of species
1.	**Quisqualisindica L.**	Rangoon creeper	Combretaceae	**06**
2.	**Achyranthesaspera L.**	Aghada	Amaranthaceae	**10**
3.	**AdhatodazeylanicaMedik.**	Adulsa	Acanthaceae	**01**
4.	**Hymenocalliscaribea (L.)Herb.**		Amarllidaceae	**03**
5.	**PhyllanthusamarusSchumach.&Thonn.**		Euphobiaceae	**20**
6.	**Tribulusterestris L.**	Sarata	Zygophyllaceae	**09**
7.	**Durantaerecta L.**		Verbenaceae	**03**
8.	**Plumeria alba L.**	Chafa	Apocynaceae	**02**
9.	**AzadirachtaindicaA.Juss**	Kadu limb	Meliaceae	**49**
10.	**Delonixregia (Boj.ex.Hook)Raf.**	Gulmohar	Caesalpiniaceae	**18**
11.	**Cassia siamea Lam.**	Kashid	Caesalpiniaceae	**09**
12.	**Cassia fistula L.**	Bahawa	Caesalpiniaceae	**01**
13.	**Tamarindusindica L.**	Chinch	Caesalpiniaceae	**53**

Tree Plantation 2015-16

Sr. No.	Botanical Name	Common Name	Family	Number of species
1.	**Terminaliacatappa L.**	Badam	Combretaceae	**03**
2.	**Limnophilaindica (L.)Druce**	Turti	Scrophulariaceae	**02**
3.	**Hibiscus rosa-sinensis L.**	Jaswansd	Malvaceae	**12**
4.	**Crossendrainfundibuliformis (L.)Nees**	Aboli	Acanthaceae	**43**
5.	**Pongamia piñata (L.)Pierre**	Karanj	Fabaceae	**24**
6.	**Gliricidiasepium (Jacq.)Kunthex.Walp**	Undirmari	Fabaceae	**01**
7.	**Polyalthialongifolia (Sonn.)Thwaites**	Ashok	Annonaceae	**29**

Tree Plantation 2014-15

Sr. No.	Botanical Name	Common Name	Family	Number of species
1.	**DalbergiasissooSensumiq.**	Shisav	Fabaceae	**61**
2.	**Bauhinia racemosa Lam.**	Apta	Caesalpiniaceae	**02**
3.	**Albizialebbeck(L.) Benth**	Kala-Shiris	Mimosaceae	**15**
4.	**Sesbaniasesban (L.)Merr**	Shevari	Fabaceae	**01**
5.	**Eucalyptus globules Labill.**	Nilgiri	Myrtaceae	**70**
6.	**TectonagrandisL.f.**	Saag	Verbenaceae	**01**
7.	**Calotropisprocera (Aiton)W.T.Aiton**	Rui, Ruchik	Asclepidaceae	**01**
8.	**Ficusbenghalensis L.**	Wad	Moraceae	**13**
9.	**Ziziphusrotundifolia Lam.**	Bor	Rhamnaceae	**01**
10.	**Syzygiumcumini (L.)Skeels**	Jambhul	Myrtaceae	**05**

Tree Plantation 2013-14

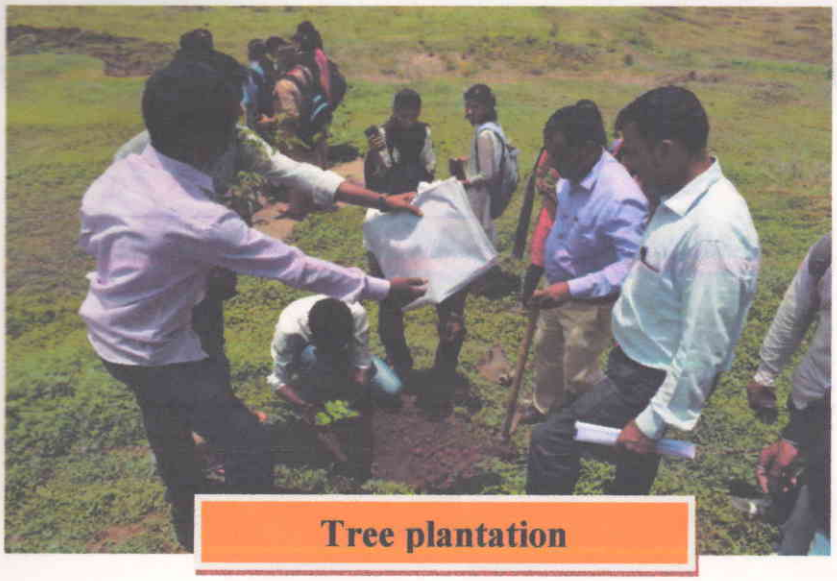
Sr. No.	Botanical Name	Common Name	Family	Number of species
1.	EmblicaofficinalisGaerth	Awla	Euphobiaceae	01
2.	Mangiferaindica L.	Amba	Anacardiaceae	04
3.	Annonasquamosa L.	Sitaphal	Annonaceae	04
4.	Manilkarazapota(L.)P.Royen	Chiku	Sapotaceae	01
5.	Withaniasomnifera (L.)Dunal	Ashwaghanda	Solanaceae	02
6.	Jasminumsambac (L.) Aiton	Mogra	Oleaceae	08
7.	Hamelia patens Jecq.		Rubiaceae	01
8.	Citrus aurantiifolia (Christm.)Swingle	Limbu	Rutaceae	01
9.	Phoenix sylvestris (L.)Roxb.	Shindi	Arecaceae	01

Tree Plantation 2012-13

Sr. No.	Botanical Name	Common Name	Family	Number of species
1.	Catharanthusroseus(L.)G.Don	Sadaphuli	Apocynaceae	09
2.	Ixora coccinea L.	Ixora	Rubiaceae	13
3.	Ocimumbasilicum L.	Tulas	Lamiaceae	04
4.	Lawsoniainermia L.	Mehandi	Lythraceae	02
5.	Tinosporacordifolia (Willd.)Miers	Gulvel	Menispermaceae	02
6.	Cycas revolute Thun.	True Sago Palm	Cycadaceae	01
7.	Thujaorientalis Van. Hoey Smith	Morphanki	Cupressaceae	07
8.	Rhoeospathceae Sw.		Commelinaceae	14
9.	Euphorbia milii Des Moul.		Euphorbiaceae	02
10.	Asparagus racemosusWilld.	Satavari	Asparagaceae	02
11.	Thespesiapopulnea (L.) Sol. ex. Conrea		Malvaceae	01
12.	Punicagranatum L.	Dalimb	Lythraceae	01

Tree Plantation 2011-12

Sr. No.	Botanical Name	Common Name	Family	Number of species
1.	**Psidium guava L.**	Peru	Myrtaceae	03
2.	**Butea monosperma (Lam.) Taub.**	Palas	Fabaceae	01
3.	**Tabernaemontana divaricata R. Br. ex Roem&Schult.**		Apocynaceae	02
4.	**Pithecellobium dulce (Roxb.) Benth.**	Vilayati chinch	Mimosaceae	03
5.	**Rosa damascena Mill.**	Gulab	Rosaceae	02
6.	**Ficus religiosa L.**	Pimpal	Moraceae	02
7.	**Ficus racemosa L.**	Umbar	Moraceae	01
8.	**Acacia nilotica (L.) Willd.**	Babhul	Mimosaceae	01
9.	**Millingtonia hortensis L.**	Buch	Bignoniaceae	02
10.	**Lysiloma latisiliquum (L.) Benth.**	Subabhul	Mimosaceae	01
11.	**Chlorophytum comosum (Thunb.) Jacques.**		Asparagaceae	02



Tree plantation

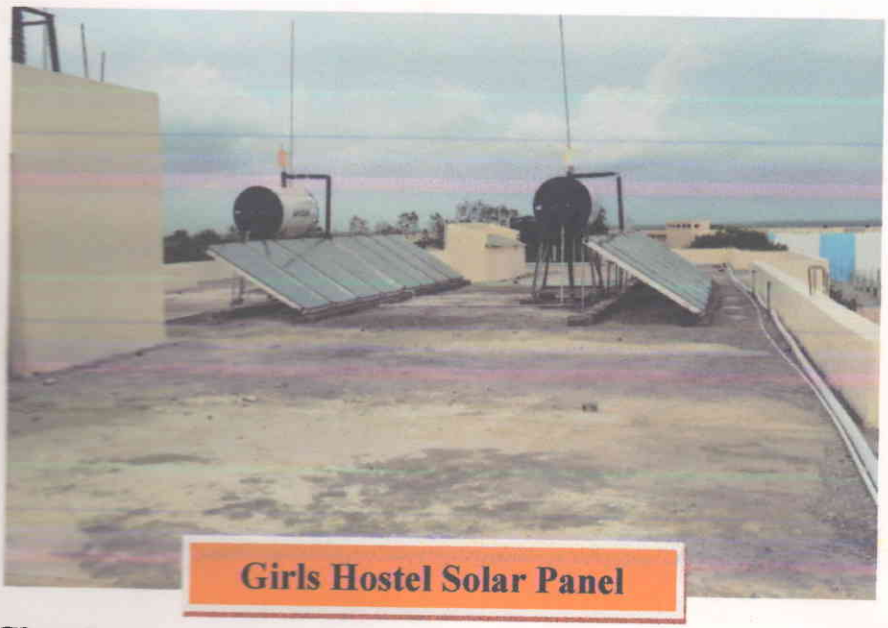
2. Drainage System

A concrete drainage pipeline is established to drain away the waste water from girls and boy's hostels. The wet solid waste is given to Nagarpalika waste collecting vehicle for further treatment.

Drainage System

3. Girls Hostel Solar Water Heater

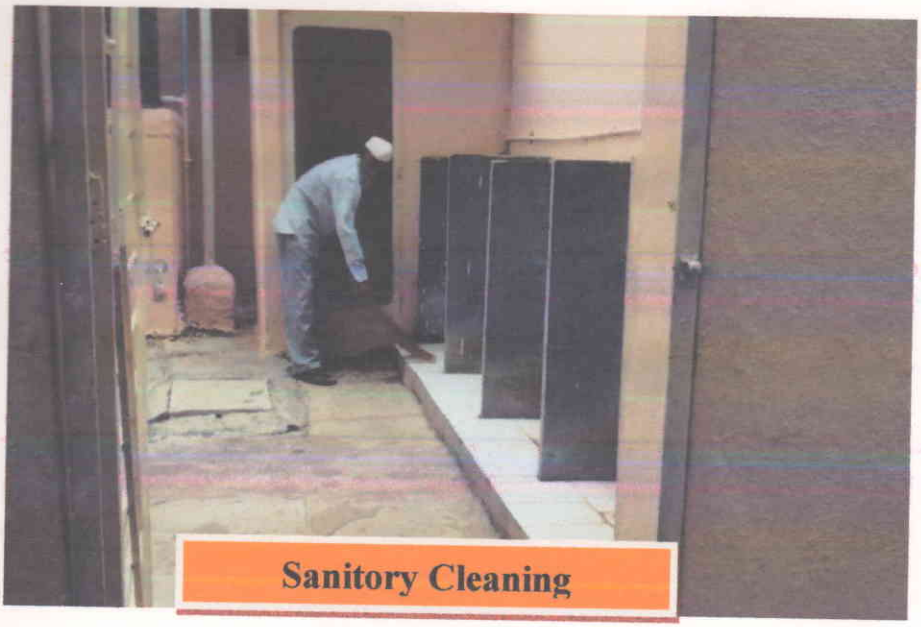
Solar water heater of 1000 litrescapacity is installed for warm water in girls hostel.



Girls Hostel Solar Panel

4. Sanitory Cleaning

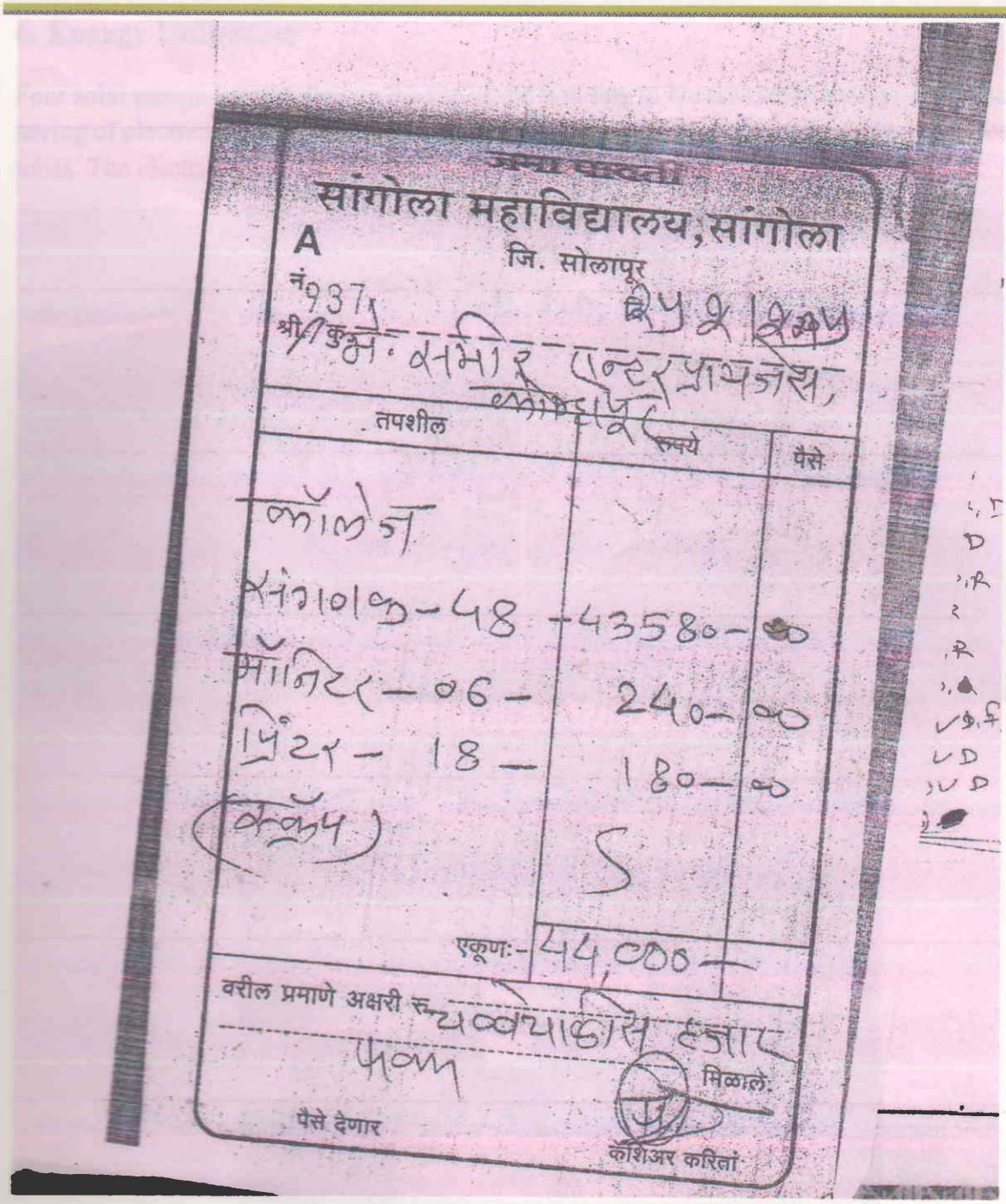
Sweeper is appointed on the daily wages to clean bathrooms and toilets in the college.



Sanitory Cleaning

5. E-waste management: E-waste collected in drop box system put in every laboratory of computer science. This E-waste is sold to the authorized agents for further disposal. The e-waste like desktops, laptops, monitors, keyboards, mouse, RAM, SMPS are de-registered from the dead stock cyclically (after 2-3 years), e-waste ready to recycle, such e-waste is sold out to the authorized e-waste vendors.

E-waste management



जमा पावती

सांगोला महाविद्यालय, सांगोला

A

जि. सोलापूर

नं 937

दि. 4 | 2 | 2015

श्री/कु/मे. सभिर एन्टरप्राइजेस, सोलापूर

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मॉनिटर-06	240-	∞
प्रिंटर-18	180-	∞
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एकूण:-	44,000-	

वरील प्रमाणे अक्षरी रु. चव्वेचाळीस हजार

From

मिळाले.

पैसे देणार

कॅशिअर करितां

6. Energy Utilization

Four solar panels are installed on the top of the building to horness solar energy. This resulted into saving of electricity bill. The traditional fluorescent tubes have been replaced by led bulbs and tubes. The electricity is switched off whenever there is no use.

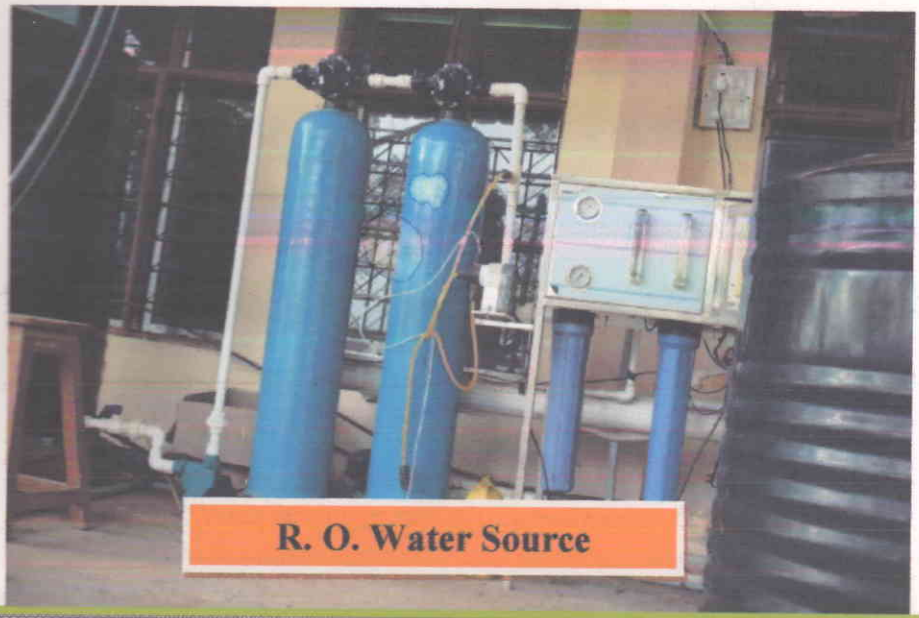
7. Drip Irrigation

Sangola is drought prone area. Always there is scarcity of water. So to use available water drip irrigation is used for watering the plants.

Drip Irrigation

8. Water Source

To provide drinking water there is one bore-well in the college campus. Besides it two water connections of corporation are used and this water is stored into the tank. If any water scarcity I arisedthen water tanker is called for drinking water. R. O. water purification is established.



R. O. Water Source

9. Botanical Garden

Botanical garden is maintained by department of botany. Every year new species of trees are planted according to the syllabus. Out of Total 50 plants in the shade. The botanical garden is renovated to accommodated more plants of various species.

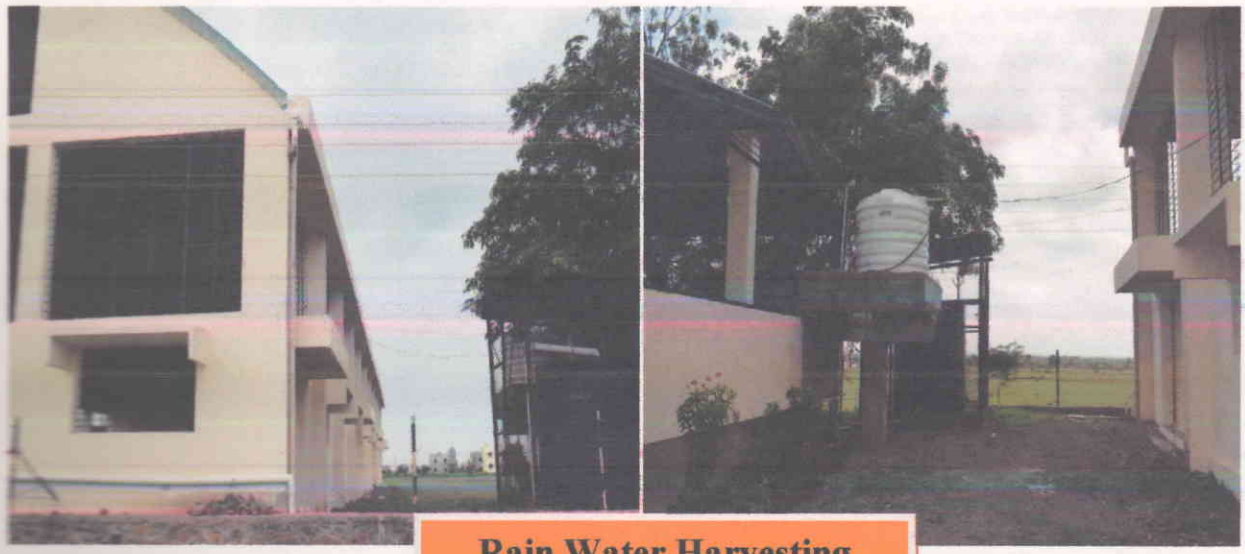
Botanical Garden

11. Waste Disposal

The waste paper (Scrops) in sold to local vendors. Generally these papers are cut into pieces and used as packaging material for fruits.

11. Rain Water Harvesting

The rain water draining down from top of the sports complex building in stored in an underwater tank of capacity 2 lakh litre storage. This water is used to water plants in the campus. The waste water of water purifier is reused for watering the plants.



Rain Water Harvesting

12. Birds Conservation

There are nest built in college campus to protect the birds. The water and food feeders are kept for them.

Birds Conservation

Atmospheric Pollution Report

Mahabal Enviro Engineers Pvt. Ltd.

Engineer, Consultant, Environmental Monitoring Laboratory & Contractor

Plot Nos. 13,14,17,18, Grampanchayat Bokhara, 8 km from Nagpur City,
Opp. Patel Petrol Pump, Chhindwara Road, Koradi, Dist.Nagpur-441111
Phone : 91-712-2612162, 2612212, WP:9326279040 **Email:** mahabal.nagpur@gmail.com

Test Report

Report No: ME-NG17340-211208-SA-SANGOLENP-SOLAPUR			**Date:** 08.12.2021
Name and address of Customer	**SANGOLE NAGAR PARISHAD,** Tal: Sangole, Dist.-Solapur,		**Order Reference** WO. No.: SANGOLENP/ T-06/4017/2021 Date: 25.11.2021
Sample Description/ Type	Ambient Air Quality Monitoring	**Sample Collected by**	Laboratory
Sampling Location	Sangola College Sangola	**Sample Quantity/Packing**	PM_{10}, B(a)P, Ni, As, Pb: Filter Paper: 1 X 3 No. $PM_{2.5}$: Filter Paper 1 X 1 No. SO_2:30 mL X 6 No. PVC Bottle NO_2:30 mL X 6 No. PVC Bottle NH_3:10 mL X 24No. PVC Bottle O_3:10 mL X 24 No. PVC Bottle Charcoal Tubes: 1 X 6 No. CO: Bladder: 2L X 3 No.
Date of Sampling	29.11.2021 to 30.11.2021	**Date of Receipt of Sample**	02.12.2021
Sampling Procedure	As per Method reference		
Date of Start of Analysis	02.12.2021	**Date of Completion of Analysis**	08.12.2021

Parameter	Unit	Result	#NAAQM Standard	Method Reference
Discipline: Chemical Testing; Product Group: Atmospheric Pollution (Ambient Air)				
Location	Sangola College Sangola		**Duration of Survey**	24 hours
Sulphur Dioxide (SO_2)	µg/m³	12.9	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.1-6
Nitrogen Dioxide (NO_2)	µg/m³	15.5	80	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.7-10
Particulate Matter (size less than 10µm) or PM_{10}	µg/m³	72	100	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.11-14
Particulate Matter (size less than 2.5µm) or $PM_{2.5}$	µg/m³	35	60	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.15-30
Ozone (O_3)	µg/m³	<19.6	180	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.31-34
Lead (as Pb)	µg/m³	<0.02	1.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55

ULR- TC748721000016322F

Plot No. E-7, Road No. 21, MIDC Wagle Estate, Thane West - 400604, Maharashtra

Mahabal Enviro Engineers Pvt. Ltd.

Engineer, Consultant, Environmental Monitoring Laboratory & Contractor

Continuation Sheet

Report No.17340 Cont...

Parameter	Unit	Result	#NAAQM Standard	Method Reference
Carbon Monoxide (CO)	mg/m^3	1.08	4.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants Volume-II, 2012-13, Page No. 16-22, (NDIR method)
Ammonia (NH_3)	$\mu g/m^3$	<20	400	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.35-39
Benzene (C_6H_6)	$\mu g/m^3$	<1	5.0	IS 5182 (Part 11): 2017
Benzo (a) Pyrene (Particulate phase only)	ng/m^3	<0.5	1.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.40-47
Arsenic (as As)	ng/m^3	<0.3	6.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55
Nickel (as Ni)	ng/m^3	4.75	20.0	CPCB Guidelines for the Measurement of Ambient Air Pollutants, Volume I, 2012-13, Page No.48-55

Remarks: TWA - Time Weighted Average, #- NAAQS specified as: 24 h. Standard in case of Sulphur Dioxide, Nitrogen Dioxide, PM_{10}, $PM_{2.5}$, Lead and Ammonia; 1 h. Standard in case of Carbon Monoxide, Ozone; Annual TWA in case of Benzene, Benzo (a) Pyrene, Arsenic and Nickel;

-----END-----

FOR MAHABAL ENVIRO ENGINEERS PVT. LTD.

Harish Mendhi

TECHNICAL MANAGER

MAHABAL ENVIRO ENGINEERS PLTD.

Note:
1. The result listed refers only to the tested sample(s) and applicable parameter(s).
2. This report is not to be reproduced except in full, without written approval of the laboratory.

ULR- TC748721000016322F

Plot No. E-7, Road No. 21, MIDC Wagle Estate, Thane West

Observation

1. College campus is clean and well maintained.
2. College campus is covered with various medicinal and angiospermic plants.
3. Bath rooms and toilets are cleaned regularly.
4. Clean and pure drinking water is available.
5. Spacious hostels for boys and girls are available.
6. Drainage system to drain out waste water is available.
7. Solar energy is harvested and transfer it into the solar panel.
8. LED electricity tubes and bulbs are installed to cut on electricity bill.
9. There is no any air and water polluting elements.
10. e-waste is handed over to authorized vendors for further recycling.
11. The solid and wet waste is given to Nagarpalika's collection vehicles.

Suggestions

1. Vermi composting pits may be established to convert wet-waste and solid waste into vermi compost.

2. Timely disposal of e-waste must be done.

3. More trees may be planted.

Auditor

Mr. M. K. Tamhane

Range Forest Officer, Sangola (SFD)

वनक्षेत्रपाल
सामाजिक वनीकरण
सांगोला