GREEN AUDIT REPORT

AHMEDNAGAR DISTRICT MARATHA SAMAJ SEVA PRASARAK'S

NEW ARTS, COMMERCE AND SCIENCE COLLEGE, PARNER

TALUKA-PARNER, DISTRICT-AHMEDNAGAR

Maharashtra 414302

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Conducted and Submitted by

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ENERFUTURE

CERTIFICATE

ENERFUTURE TECHNOLOGY PRIVATE LIMITED

Verified and Certified that

NEW ARTS, COMMERCE AND SCIENCE COLLEGE,

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has carried out

Green/Environment Audit

as per guidelines laid down in the Indian Standards and Codes in 2022-23.

ENERFUTURE TECHNOLOGY PRIVATE LIMITED * PUNE *

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ACKNOWLEDGEMENT AND CONCEPT

Enerfuture thanks the management of New arts, commerce and science college, Parner for assigning this important work of Green Audit of New arts, commerce and science college, Parner

Green audit is defined as a formal examination of practices adopted and their effects on the environment, by an organization. It is also widely known as Environmental Audit.

The aim of the Green Audit is to review the overall environment management systems. Depending on the types of standards and the focus of the audit, there are different types of environmental audits.

Organizations now recognize the importance of environmental matters and accepts that their environment performance should be scrutinized to understand its impact and to take remedial measures to lessen it.

Environmental auditing is used to:

1. Investigate
2. Understand and
3. Identify

These are then used to help in improving existing human activities, with the aim of reducing the adverse effects of these activities on the environment.

An environment auditor studies an organization's environment effects in a systematic and documented manner and produces an environmental audit report.

Green audit for an educational institution mainly examines the following systems

1. Renewable/ green energy usage
2. Water management
3. Biodiversity
4. Health and safety management
5. Sanitation management
6. Adopted Green practices

Contribution of college's team is equally important in this venture. Team of technical experts from Enrfuture Technology Pvt Ltd is grateful to all the following personnel of New arts, commerce and science college, Parner for their kind cooperation, furnishing required data, analysis report and support offered during our visit.

Name	Designation
Prof. Dr. R. K. Aher	Principal
Prof. Dr. D. R. Thube	Vice-Principal

We are also thankful to the other staff members who were actively involved while taking measurements and conducting field study.

STUDY TEAM

Sr No	Name	Qualification
1	Mr. Chetan Nemade	M.Tech (Energy Studies), Advance Diploma in Industrial Safety (ADIS), LLB(pursuing), BEE Certified Energy Manager
2	Mr Vinay Mulay	M.Tech (Energy Studies), ISO 50001 Lead Auditor, BEE Accredited Energy Auditor
3	Mr YogeshKuwar	M.Tech (Energy Studies), IGBC IGBC Accredited Professional, Post Graduate Diploma in Environmental law and Policy (PGDELP), BEE Certified Energy Manager
4	Mr Prasad Kalal	B.E Electrical, BE (Electrical), Electrical Supervisor(51242), Electrical Contractor(37364)
5	Mr Prashant Shinde	B.E Mechanical, IGBC Accredited Professional, Certified Energy Auditor
6	Mr Anil Yeole	ISO Lead Auditor, M.Com, P.G.D.B.M., G.D.C&A.

LIST OF INSTRUMENTS USED

1. Lux meter (Meco)
2. TDS meter
3. CO2 meter
4. Air quality measure meter
5. Sound dB meter

CONTENTS

EXCECUTIVE SUMMARY

Sr No	Location	Area	Objective/Purpose	Recommendation/Status
1	College Arts and Commerce building	Solar Photovoltaic System- 21kWp	To generate electrical energy by renewable sources and reduce the CO2 emissions	**Implemented**
2	College- Admin Building	Solar Photovoltaic System- 3kWp	To generate electrical energy by renewable sources and reduce the CO2 emissions	**Implemented**
3	Girl's Hostel	Solar Photovoltaic System- 7.2kWp	To generate electrical energy by renewable sources and reduce the CO2 emissions	**Implemented**
4	Hostel	Solar Water Heating System- 2760 LPD	To generate hot water and ultimately conserve the energy and reduce the CO2 emission reduction renewable energy usage	**Implemented**
5	Girl's Hostel	Bio-Gas generation plant	Utilised organic food generated in the hostel mess to generate bio-gas for cooking purpose. This saves conventional fuel LPG and ultimately reduce the CO2 and Greenhouse gases emissions	**Implemented**

6	College campus	Composting	Reduces the landfill pollution and green-house gases reduction. Also produce bio-fertiliser compost to trees in the college campus	**Implemented**
7	All buildings of college	Tap water reducers	To save the water	**Need to be implement**
		Hands free water tap system	This saves the water and also good for personal health protection to avoid frequent hand touching to water taps.	**Need to be implement**
8	College- Science building	Rain water harvesting	Save water. Increases the groundwater recharge.	**Implemented**
	Other college buildings			**Implemented**
9	College buildings/campus	Air Comfort/ Quality	Air quality for human being comfort	**Aspirational**
10	College buildings/campus	Sound Comfort/ Quality	Sound quality or comfort for human being comfort	**Within permissible limits**
11	College buildings/campus	Daylight Comfort/Illumination	Daylight illumination for human being comfort	**Within permissible limits**
12	College buildings/campus	Health and Safety Management	Electrical safety- electrical wiring, its loose connections etc	**Need to be improve**
			Electrical safety- unwanted materials are placed in electrical panel rooms	**Need to be remove**

			Fire safety- number of fire extinguishers are placed in college campus	**Good**
			Fire safety- Maintenance validity of fire extinguishers are renewed	**Good**
			Unwanted material placed in college campus	**Good. Number of dust bins are used**
			College has its own health centre	**Good**
13	College buildings/campus	No vehicle day	Save the conventional fuel and reduces the CO2 emissions.	**Implemented on one day every month**
14	College buildings/campus	Waste management- E-waste	Reduce the CO2 emissions by recycling of solid waste. Also Save environment from hazardous materials.	**Implemented by MoU with third party recycler company.**
15	College buildings/campus	Waste management- Solid waste	Reduce the CO2 emissions by recycling of solid waste	**Regularly implemented and maintained every month.**
16	College buildings/campus	Tree plantation/ Green belt cover	To increase the forest cover. Reduce the Air, Noise pollution, reduce CO2 emissions etc	**Regularly implemented every year**
17	College buildings/campus	Cleanliness drive and awareness campaign or poster competitions etc	Swatch Bharat Mission (SBM), Swatch Bharat Abhiyan (SBA), or Clean India Mission etc initiative by college	**Regularly conducted by college**

18	College buildings/campus	Plastic free campaign	Save environment from non-recycling and hazardous materials.	**Creating awareness in the college.**

COLLEGE INTRODUCTION

INTRODUCTION

New Arts, Commerce and Science College, Parner established in July 1977 is one of the leading colleges in the SPPU region. It is affiliated to Savitribai Phule Pune University, Pune and recognised under 2(f) and 12(B) of the UGC.
The college has figured in rank band of 101-150 in the NIRF rankings 2017 released on 3rd April 2017 by National Institutional Ranking Framework, Ministry of Human Resource Development and GoI.
The college is recipient of Best College Award 2014 given by SPPU. The College is recipient of fifteen state and university level awards during last five years for its excellence in academic, social activities, performance of NSS, NCC, and Students Welfare Board and for its college magazine Chetana.
More than 24 SPPU academic rankers in the last four years indicate the quality of teaching, learning imparted in the college. During the last four decades, the college has made a great contribution to the educational and social development of the Parner tahasil. Fortunately, Parner is blessed with the philosophy of social workers like Padmabhushan Anna Hazare and Popatrao Pawar.
The college has a clean and beautiful campus of 11.4 acres with adequate plantation despite meagre rainfall.

There has been continuous extension and up gradation of infrastructure in terms of classrooms, laboratories, library, gymnasium, hostels, seminar halls, auditorium, guesthouse, equipment, instruments, language laboratory, etc.
The college library is one of the best centres for reference and information in the region. It has more than 41843 books, 61 journals and 452 CD/DVDs.
The present student enrolment is 2416. The total number of programmes offered at present is 42 which include 15 UG, 11 PG, 02 research centres and 14 certificate courses.
The college has continuously upgraded its academic profile with new academic programmes as per the need of the time and to make available the new avenues of career options to students.
Most of the UG academic programmes have been subsequently extended to PG and further to research programmes to ensure progression to higher levels.
During the last five years 02 UG programmes, 07 PG programmes and 02 research centres and 12 certificate courses have been newly introduced.
The college has invested enormous amount to create required infrastructure to run them efficiently.
Over the years, the college has maintained its distinct position in introducing new academic programmes with immediate effect as and when designed and approved by the university.
A wide range of programmes has provided greater need based choices to the students.

VISSION

To make social development through quality education to poor and socioeconomically deprived masses and rural youth.

MISSION

To make all round personality development of students through disciplined teaching-learning process.

OBJECTIVES

- To encourage students in general and girls in particular for quality teaching-learning processes.
- To inculcate scientific temper and humanitarian approach among society in general and students in particular.
- To encourage students to learn modern techniques and methodologies.
- To inculcate values and social responsibilities among students.
- To address to the global and local needs to.

LOCATION


State Bank of India
Parner College Rd
New English School & Junior College
Cafe Creme
Takeout
Bank Of Baroda
New Arts, Commerce and Science College,Parner
Science Building
Church Rd
Kighnaharta Hospital
Hotel Gaurav
Layers
Google

RENEWABLE ENERGY SYSTEMS

1. SOLAR WATER HEATING SYSTEM- HOT WATER GENERATION

OBSERVATION

1. In Girl's and Boy's hostel, there is Solar Water Heating system is installed for the purpose of water heating instead of electric heaters.
2. Total capacity of Solar Water Heating system at girl's hostel is 1760 litres/day and at boy's hostel is 1000 litres/day
3. Auxiliary heaters are not used in solar water heating system.

Total Solar Water Heating System- 2760litres/day- Girl's and Boy's Hostel

CO2 EMISSION REDUCTION

Particulars		
Hot water temperature	60	deg C
Cold water temperature	25	deg C
Temperature difference(delta T)	35	deg C
Volume of water	2760	lit
Volumetric flow	2760	lit/day
Hot water temperature	60	deg C
Enthalpy of cold water	25.04	kcal/kg
Enthalpy of Hot water	60	kcal/kg
Enthalpy difference	34.96	kcal/kg
Amount of heat used	96489.6	kcal
Power used for heating	112.20	kW
Monthly kWh	3422.01	kWh/month
Saving kWh	3422.01	kWh/month
Saving kWh	41064.18	kWh/year
Saving INR	41885.46	INR/month
CO2 emission reduction/year	**34.90**	**tonnes of CO2e**

2. SOLAR PHOTOVOLTAIC SYSTEM- ELECTRICAL ENERGY GENERATION

OBSERVATION

1. In Arts and commerce college building, Admin building and Girl's hostel building, there are Solar Photovoltaic Systems are installed for the purpose of kWh units generation
2. Total capacity of Solar Photovoltaic System is 31.2kWp

ARTS NAD COMMERCE COLLEGE BUILDING

Solar Photovoltaic System- 21kWp- Arts and Commerce College Building

Particulars		
Total capacity of Solar PV system	24	kWp
Units generation per month	2400	kWh/month
Units generation per year	28800	kWh/year
CO2 emission reduction/year	**24.48**	**tonnes of CO2e**

ADMIN BUILDING

Solar Photovoltaic System- 3kWp- Admin building

Particulars		
Total capacity of Solar PV system	24	kWp
Units generation per month	2400	kWh/month
Units generation per year	28800	kWh/year
CO2 emission reduction/year	**24.48**	**tonnes of CO2e**

COLLEGE BUILDING

Solar Photovoltaic System- 10kWp- College building

Particulars		
Total capacity of Solar PV system	10	kWp
Units generation per month	1000	kWh/month
Units generation per year	12000	kWh/year
CO2 emission reduction/year	**10.02**	**tonnes of CO2e**

GIRL'SHOSTEL BUILDING

Solar Photovoltaic System- 7.2kWp- Girl's Hostel

Particulars		
Total capacity of Solar PV system	3	kWp
Units generation per month	300	kWh/month
Units generation per year	3600	kWh/year
CO2 emission reduction/year	**3.06**	**tonnes of CO2e**

WASTE MANAGEMENT SYSTEMS

1. BIO-GAS GENERATION

OBSERVATION

1. College has installed small Bio-Gas generation plant at hostel.
2. Capacity of Bio-Gas plant system is 10 kg/day.
3. Approximate waste generated in hostel per day is about 10kg.
4. Generated bio- gas is used for cooking purpose in hostel canteen.

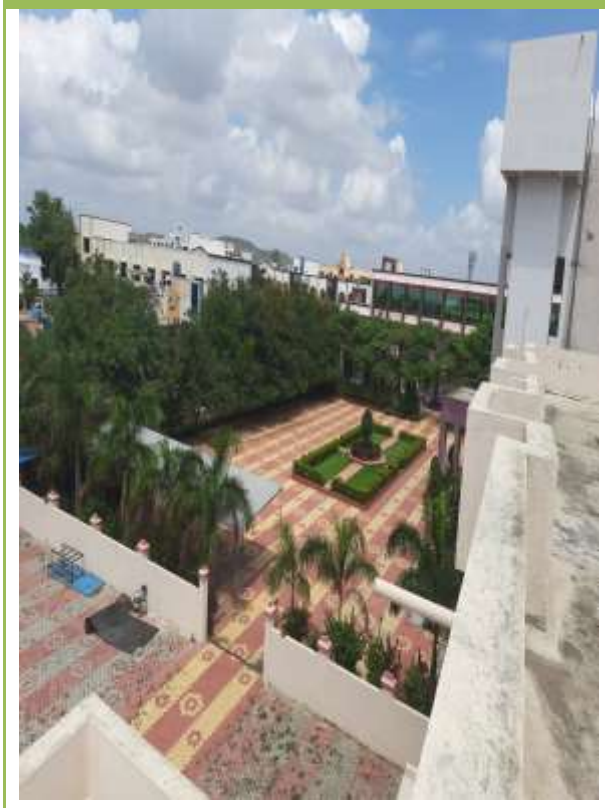
Bio-Gas Generation Plant - 50kg/day- Hostel

Particulars		
Capacity of bio gas plant	10	kg/day
Waste generated	10	kg/day
Approximate bio gas generation	1.5	m3/day
Approximate bio gas generation	45	m3/month
Equivalent LPG gas saved	67.5	kg/month
Approximate LPG cylinder saved	3.6	nos
Cost saved	**3552.63**	**INR/month**

2. WASTE WATER TREATMENT PLANT/ SLUDGE TREATMENT PLANT

OBSERVATION

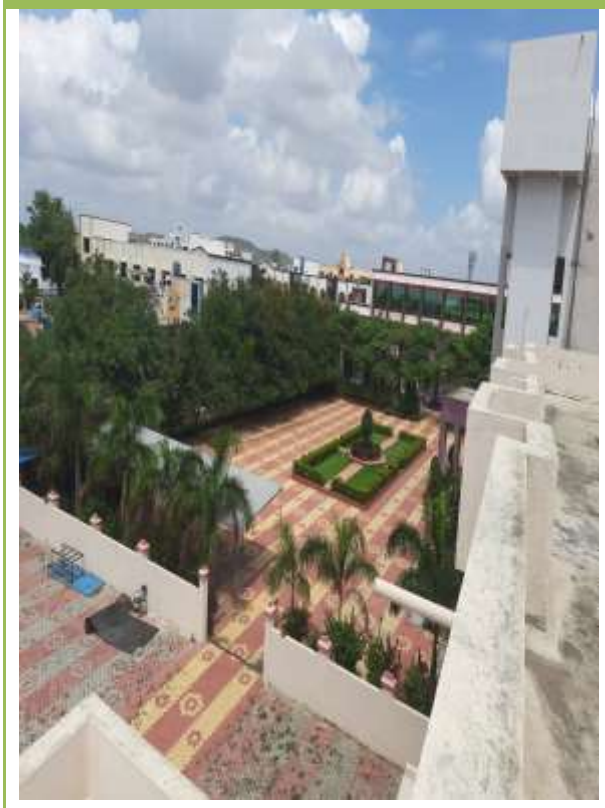
1. In college premises there are number of trees are planted by college management.
2. College also developed its own botanical garden as well as nursery.
3. There is substantial amount of waste of tree leaves, shrubs are generated in the college premises.
4. There are four number of earth pits constructed for making the compost. Eventually made compost used in gardening as well as new tree plantation purposes.

STP	
	
Number of trees in the college premises	**Composting pits in the college**

3. COMPOSTING

OBSERVATION

5. In college premises there are number of trees are planted by college management.
6. College also developed its own botanical garden as well as nursery.
7. There is substantial amount of waste of tree leaves, shrubs are generated in the college premises.
8. There are four number of earth pits constructed for making the compost. Eventually made compost used in gardening as well as new tree plantation purposes.

Number of Trees	Composting pit
	
Number of trees in the college premises	**Composting pits in the college**

Botanical Garden	Nursery
	

WATER QUALITY AND MANAGEMENT SYSTEMS

1. TDS LEVEL OF WATER

INTRODUCTION

The water we drink contains essential salts and minerals like calcium, potassium and magnesium, besides hydrogen and oxygen.

These minerals make up the acceptable levels of TDS (Total Dissolved Solids). Besides, these minerals, the source water contains heavy impurities like arsenic, antimony, lead, iron, etc. It also includes carbonates, fluorides, sulphides and other salts picked along the way. These contaminates enhance the TDS levels to unacceptable levels.

BIS (Bureau of Indian Standards) determines the TDS acceptability levels in drinking water. In India, drinking water can contain TDS up to 500 ppm. BIS has constituted the following table that could clarify the matters further.

TDS level (PPM)	Reasons for acceptability or non-acceptance	
less than 50	Unacceptable	The water with these TDS level does not contain the minerals required for healthy growth
50 - 150	Acceptable	Such TDS levels are usually due to minor industrial contamination
150 - 250	Acceptable	BIS considers water with this TDS levels as the healthiest of all because it is excellent for cardiovascular health
250 - 350	Acceptable	Many areas in India depends on groundwater or bore wells for their water requirements. This water contains essential minerals hence is in acceptance range
350 - 500	Fair	The maximum TDS levels acceptable for human consumption is 500
above 500 - 1200	Not Acceptable	BIS does not recommend ant TS level above 500 as fit for human consumption. However, water with TDS levels up to 1200 can be subjected to purification using Reverse Osmosis(RO) technology to eliminate TDS and bring it down to acceptable levels

OBSERVATION

1. Drinking water requirement of college and hostel is fulfil by bore well water
2. Domestic water requirement of college is fulfil by bore well.
3. For drinking water, in college RO system is installed to reduce the TDS level of water
4. TDS level of drinking water and domestic water as

TDS level of water	
	
Drinking water	**Domestic water**
⃠- Not Acceptable	**√- Acceptable**

	TDS	Acceptability
	ppm	
Drinking water	38	Not Acceptable
Domestic water	251	Acceptable

OBSERVATION

1. To increase the TDS level of drinking water by controlling TDS of RO system as current TDS of drinking water is below acceptable level.

2. RAIN WATER HARVESTING- COLLEGE PREMISES (SCIENCE BUILDING)

OBSERVATION

1. College has implemented rain water harvesting at botanical garden for science building premises where rainwater is connected to the main college bore well recharge which have capacity approximate 3 lakhs litre/annum water
2. At other buildings there is no rainwater harvesting system implemented.

RECOMMENDATION

1. It is recommended that to implement rainwater harvesting at different buildings also to harvest maximum amount of water as city location falls under low rain fall region.

Rain water harvesting of college premises

3. WATER TAP REDUCER

OBSERVATION

1. College has conventional water tap system in the area like bathrooms, toilets, laboratories etc.
2. Conventional water tap system consumes or requires more water for the purpose of washings, cleanings etc.

Conventional Tap water system	Tap water system with Reducer
	
Existing tap water system uses more water while during purpose of washing of utensils, hands etc in college.	**Used reducer to tap water for purpose of washing of utensils, hands etc which reduces flow of water and ultimately saves the water.**
⃠	√

RECOMMENDATION

It is recommended that use the water reducer for water taping system. This helps saving the volume of water and subsequently energy cost of pumping also.

AIR QUALITY

INTRODUCTION

Indoor air is considered to be healthy when the air does not contains contamination in harmful concentrations and is acceptable when the majority of people feel satisfied. A human being breathes about 12,000 litres of air every day and is vital for our health. Exposure to hazardous airborne agents present in indoor space causes adverse effects such as respiratory and cardiovascular diseases, allergy and irritation of the respiratory tract and possibly leads to cancer.

Main source of indoor air pollutants are from outdoor air, household cooking (especially cooking with biomass or frying), tobacco smoking, polluted ambient air, cleaning agents, resuspension of dust during the cleaning activities, construction materials and paints, copy machines and printers as well as other human activities. Ambient air pollutant sources are vehicle emissions, thermal power plants, biomass burnings, construction work, unattended debris, open sewage pipes, fossil fuel based power generation and various industrial processes etc.

Threshold values for indoor air quality parameters				
Parameters	**Classification**			
	Class A	**Class B**	**Class C**	
Level	**Aspirational**	**Acceptable**	**Marginally acceptable**	
CO2	Ambient+350	Ambient+500	Ambient+700	ppm
PM2.5	<15	<25	<25	ppm
PM10	<50	<100	<100	ppm
HCHO	30			ppm
TVOC	<200	<400	<500	ppm
Occupational satisfaction	**90**	**80**	**-**	**%**

OBSERVATION

1. In college air quality is at good/ aspirational level.
2. Only the place where construction of building is going on, air quality is at not acceptable level.

Chemistry Laboratory	Library
	
√-Aspirational	√-Aspirational

Chemistry Laboratory	Library
	
√-Aspirational	√-Aspirational

Location	Chemistry Laboratory	Library	
CO2	365	382	ppm
PM2.5	9	9	ppm
PM10	10	10	ppm
HCHO	0.000	0.008	ppm
TVOC	0.003	0.001	ppm
Level	**Aspirational**	**Aspirational**	

SOUND COMFORT/QUALITY

INTRODUCTION

Noise is unwanted sound. Ambient noise is all encompassing noise associated with any given environment and is usually a composite of sounds from many sources near and far. Any abnormal sound which irritates human being is called as noise pollution.

Noise is one of the undesirable products of technological civilization. Admits this civilization wherever we go, noise surrounds us. The roar of traffic, the passage of trains and aeroplanes, the bustle of crowds and the working of industry and the public utilities deafens our ears. Even home is invaded by noise. The noise from whatever source it comes from is undoubtedly, physiologically as well as psychologically harmful. Invading environment in dangerous proportions, it is an invisible but insidious form of pollutant Noise as a potentially harmful pollutant is being recognised as a great nuisance these days affecting the quality of the particularly, in urban areas.

The Environment (Protection) Act, 1986, under Sec. 6 has mentioned “Rules to regulate environment (Protection) Act, 1986, under Sec. 6 has mentioned “Rules to regulate environmental pollution”. This section has explained the maximum allowable limits of concentrations of various environmental pollutants (including noise) for different areas.

Air quality standards in respect of Noise			
Area code	**Category of Area/ Zone**	**Limits/Levels**	
		Day Time	**Night Time**
A	Industrial area	75	70
B	Commercial area	65	55
C	Residential area	55	45
D	Silence zone	50	40

.

OBSERVATION

Location	Limits	Limits/Levels
	dB	
Chemistry laboratory	50.9	permissible limits
Library	60.5	permissible limits
Office	55.8	permissible limits
Outdoor	52.0	permissible limits

Chemistry laboratory	Office
	
√-within permissible limits	√-within permissible limits

DAY LIGHT ILLUMINATION/COMFORT

INTRODUCTION

Light has significant impact on many body functions, including the nervous system, circadian rhythms, pituitary gland, endocrine system, pineal gland and alertness as these are affected by different wavelengths of light.

Variations over time in lighting conditions, in terms of intensity, illumination levels, distribution, ambient lighting and colour temperature, can stimulate alertness and well-being of people.

Threshold IL luminance level		
Building type	**Type of space**	**IL luminance**
		Lux
Schools	Classrooms	500
	Corridors	100
	Teachers rooms	300
	Libraries	500
	Offices	300

OBSERVATION

Location	IL luminance	Limits/Levels
	Lux	
Classrooms	*163	permissible limits
Corridors	*100	permissible limits
Teachers rooms	*186	permissible limits
Libraries	*150	permissible limits
Offices	*196	permissible limits
* values are measured in daylights and given standard values of lux are with lightings		

HEALTH AND SAFETY MANAGEMENT AND INFRASTRUCTURE

1. COLLEGE INFRASTRUCTURE

INTRODUCTION

College campus comprises of various buildings as main college building, new circular building, old tutorial building, building of microbiology, hostel etc. Parking area, central playing ground and one number of underground water tank bodies for storage of water.

The existing campus of New arts, commerce and science college, Parner is one of the most student friendly work environment in the Pune.

OBSERVATION

Sr. No.	Locations	Space
1	Administration building	Spacious
2	Science building	Spacious
3	Arts and commerce building	Spacious
4	Library & Reading hall	Spacious
5	Toilet Blocks	Spacious
6	Parking Area	Spacious
7	Passage	Spacious
8	Class rooms	Spacious
9	Passage	Spacious
10	Staircase	Spacious
11	College premises	Spacious
12	Hostel	Spacious

ASSESSMENT OF COLLGE CAMPUS BUILDING INFRASTRUCTURE

Sr No	Locations	Space	Ventilation	Natural Light	Cleanliness	Remark
1	Administration building	Spacious	Good	Good	Good	
2	Science building	Spacious	Good	Good	Good	
3	Arts and commerce building	Spacious	Good	Good	Good	
4	Library & Reading hall	Spacious	Good	Average	Good	
5	Toilet Blocks	Spacious	Good	Good	Good	
6	Parking Area	Spacious	Good	Good	Good	
7	Passage	Spacious	Good	Good	Good	
8	Class rooms	Spacious	Good	Good	Good	
9	Passage	Spacious	Good	Good	Good	
10	Staircase	Spacious	Good	Good	Good	
11	College premises	Spacious	Good	Good	Good	
12	Hostel	Spacious	Good	Good	Good	

2. HEALTH AND SAFETY MANAGEMENT

OBSERVATION

1. Regular cleaning of college campus and toilets is done by the cleaning staff. This involves dusting, floor cleaning and toilets cleanings.
2. Garden and parking area is also kept clean by staffs.
3. Cleaning equipment and washing liquids are provided to the cleaning staff.
4. In college premises and playground area audit team found the number of dust bins are placed for dry and wet waste.
5. College has placed its health centre with regular OPD of doctors.
6. There are number of fire extinguishers are placed in college campus building for fire safety purpose. Fire extinguishers are renewed regularly.

Fire safety	
Validity of Fire Extinguishers	**Fire extinguishers**
	
Maintenance validity of fire extinguishers are renewed.	**College has placed number of fire extinguishers at various places in the college campus**
√- Good	**√- Good**

Fire safety	
Fire Extinguishers maintenance	**Fire Extinguishers maintenance**
	
Maintenance validity of fire extinguishers are renewed.	**Maintenance validity of fire extinguishers are renewed.**
√- Good	**√- Good**

Safety awareness	
Sign boards	**Sign boards**
	
Sign boards of safety awareness are placed	**Sign boards of safety awareness are placed**
√- Good	**√- Good**

Health safety- Health Centre

College has its Health centre with regular OPD of doctors

√- Good

Health safety	
Strong Room	**Solvent Room**
	
College has its separate Strong room and Solvent room at Science building for storage of Chemical solvents, Chemicals, Acids etc. which are hazardous to health used in laboratories.	
√- Good	

Health safety	
Conventional water taping system	**Hands free water taping system**
	
College have currently conventional water taping system	**College can adopts hands free water taping system. This saves the water and also good for personal health protection to avoid frequent hand touching to water taps.**

NO VEHICLE DAY INITIATIVE

OBSERVATION

1. Many of the college students and staff use the private or own vehicle to come college.
2. It contributes the CO2 emission due to burning of petrol or diesel in the vehicles.

No Vehicle Day Initiative- Once a Week

It is recommended that college has to take initiative of No Vehicle Day once a every week

Particulars		
Number of vehicles in college premises	250	nos
Average running of vehicle	2	km/vehicle
Average fuel required	250	litres/day
Average cost of fuel	25000	INR/day
Number of days in months	4	nos
Average fuel save	1000	litres/month
Average cost save	100000	INR/month
Average CO2 emission reduction per month	0.67	tonnes of CO2e
Average CO2 emission reduction per year	**8.04**	**tonnes of CO2e**

RECOMMENDATION

It is recommended that college take initiative of No Vehicle Day once every week to reduce the CO2 emission reduction due fuel burning.

OTHER ENERGY EFFICIENT, GREEN, HEALTH, WASTE PRACTICES BY THE COLLEGE MANAGEMENT

1. LIQUID WASTE MANAGEMENT/ SLUDGE TREATMENT PLANT/ WASTE WATER TREATMENT PLANT

INTRODUCTION

Sewage treatment is the process of removing contaminants from municipal wastewater, containing mainly household sewage plus some industrial wastewater. Physical, chemical, and biological processes are used to remove contaminants and produce treated wastewater (or treated effluent) that is safe enough for release into the environment. A by-product of sewage treatment is a semi-solid waste or slurry, called sewage sludge. The sludge has to undergo further treatment before being suitable for disposal or application to land.

Sewage treatment may also be referred to as wastewater treatment. However, the latter is a broader term that can also refer to industrial wastewater. For most cities, the sewer system will also carry a proportion of industrial effluent to the sewage treatment plant that has usually received pre-treatment at the factories to reduce the pollutant load. If the sewer system is a combined sewer, then it will also carry urban runoff (storm water) to the sewage treatment plant. Sewage water can travel towards treatment plants via piping and in a flow aided by gravity and pumps. The first part of the filtration of sewage typically includes a bar screen to filter solids and large objects that are then collected in dumpsters and disposed of in landfills. Fat and grease are also removed before the primary treatment of sewage.

OBSERVATION

3. College has implemented Sludge Treatment Plant (STP)/ Waste Water Treatment Plant in the college to treat the waste water generated at Hostels, College and labs.
4. To treat the waste water naturally, college also built the underground pit system where waste water is treated naturally.

Sludge Treatment Plant/ Waste Water Treatment Plant	
	
√- Good	

2. SOLID WASTE MANAGEMENT (SCRAPS LIKE PLASTIC, PAPER ETC)/ E-WASTE MANAGEMENT

INTRODUCTION

College have good policy and maintained the record for solid waste generated in the college like old newspapers, books, scrap boxes, etc.

E-WASTE MANAGEMNT

Electronic waste or e-waste describes discarded electrical or electronic devices. Used electronics which are destined for reuse, resale, salvage, recycling, or disposal are also considered e-waste. Informal processing of e-waste in developing countries can lead to adverse human health effects and environmental pollution.

Electronic scrap components, such as CPUs, contain potentially harmful components such as lead, cadmium, beryllium, or brominates flame retardants. Recycling and disposal of e-waste may involve significant risk to health of workers and communities in developed countries and great care must be taken to avoid unsafe exposure in recycling operations and leaking of materials such as heavy metals from landfills and incinerator ashes.

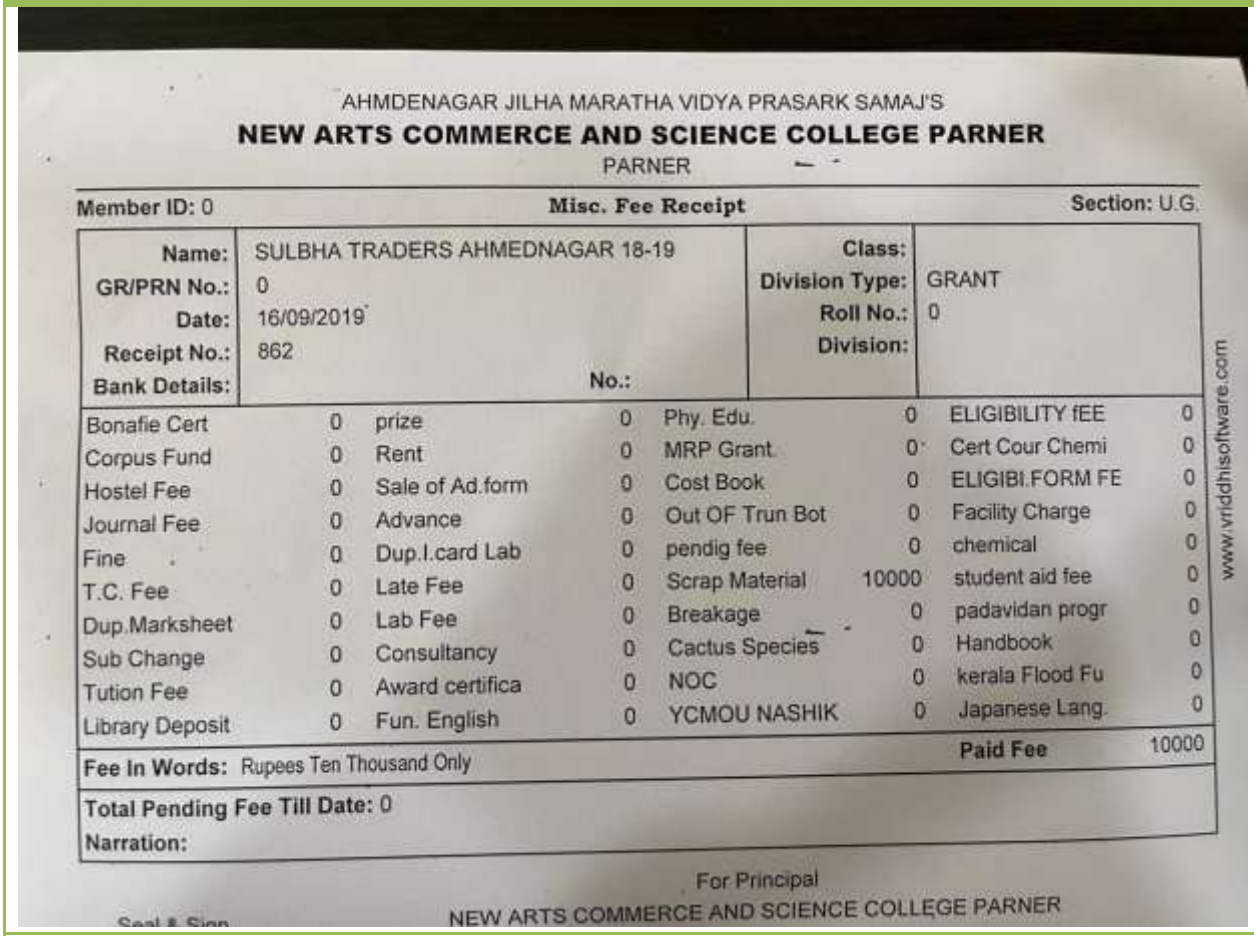
The environmental impact of the processing of different electronic waste components

E-Waste Component	Process Used	Potential Environmental Hazard
Cathode ray tubes (used in TVs, computer monitors, ATM, video cameras, and more)	Breaking and removal of yoke, then dumping	Lead, barium and other heavy metals leaching into the ground water and release of toxic phosphor
Printed circuit board (image behind table – a thin plate on which chips and other electronic components are placed)	De-soldering and removal of computer chips; open burning and acid baths to remove metals after chips are removed.	Air emissions and discharge into rivers of glass dust, tin, lead, brominated dioxin, beryllium cadmium, and mercury
Chips and other gold plated components	Chemical stripping using nitric and hydrochloric acid and burning of chips	PAHs, heavy metals, brominated flame retardants discharged directly into rivers acidifying fish and flora. Tin and lead contamination of surface and groundwater. Air emissions of brominated dioxins, heavy metals, and PAHs
Plastics from printers, keyboards, monitors, etc.	Shredding and low temp melting to be reused	Emissions of brominated dioxins, heavy metals, and hydrocarbons
Computer wires	Open burning and stripping to remove copper	PAHs released into air, water, and soil.

OBSERVATION

1. College has given solid waste generated like papers, metal scrap etc to the authorised recycle for proper channelling the solid waste.
2. This helps to reduce the CO2 emission reduction due to recycling of the solid waste.
3. Currently there in no MoU or any provision for E-Waste management in the college.

Scrap Material Invoice



AHMDENAGAR JILHA MARATHA VIDYA PRASARK SAMAJ'S

NEW ARTS COMMERCE AND SCIENCE COLLEGE PARNER

PARNER

Member ID: 0 **Misc. Fee Receipt** **Section:** U.G.

Name:	SULBHA TRADERS AHMEDNAGAR 18-19	**Class:**	
GR/PRN No.:	0	**Division Type:**	GRANT
Date:	16/09/2019	**Roll No.:**	0
Receipt No.:	862	**Division:**	
Bank Details:	**No.:**		

Bonafie Cert	0	prize	0	Phy. Edu.	0	ELIGIBILITY fEE	0
Corpus Fund	0	Rent	0	MRP Grant	0	Cert Cour Chemi	0
Hostel Fee	0	Sale of Ad.form	0	Cost Book	0	ELIGIBI.FORM FE	0
Journal Fee	0	Advance	0	Out OF Trun Bot	0	Facility Charge	0
Fine	0	Dup.I.card Lab	0	pendig fee	0	chemical	0
T.C. Fee	0	Late Fee	0	Scrap Material	10000	student aid fee	0
Dup.Marksheet	0	Lab Fee	0	Breakage	0	padavidan progr	0
Sub Change	0	Consultancy	0	Cactus Species	0	Handbook	0
Tution Fee	0	Award certifica	0	NOC	0	kerala Flood Fu	0
Library Deposit	0	Fun. English	0	YCMOU NASHIK	0	Japanese Lang.	0

Fee In Words: Rupees Ten Thousand Only **Paid Fee** 10000

Total Pending Fee Till Date: 0

Narration:

For Principal

NEW ARTS COMMERCE AND SCIENCE COLLEGE PARNER

Seal & Sign

www.vriddhisoftware.com

√- Good

RECOMMENDATION

It is recommended that college has to sign MoU with authorised E-Waste management company so that they can dispose the E-waste generated the college systematically.

3. TREE PLANTATION, SOIL CONSERVATION

INTRODUCTION

Tree-planting is the process of transplanting tree seedlings, generally for forestry, land reclamation, or landscaping purpose

In silviculture the activity is known as reforestation, or afforestation, depending on whether the area being planted has or has not recently been forested. It involves planting seedlings over an area of land where the forest has been harvested or damaged by fire, disease or human activity. Tree planting is carried out in many different parts of the world, and strategies may differ widely across nations and regions and among individual reforestation companies. Tree planting is grounded in forest science, and if performed properly can result in the successful regeneration of a deforested area. Reforestation is the commercial logging industry's answer to the large-scale destruction of old growth forests, but a planted forest rarely replicates the biodiversity and complexity of a natural forest.[citation needed]

Because trees remove carbon dioxide from the air as they grow, tree planting can be used as a geoengineering technique to remove CO
2 from the atmosphere. Desert greening projects are also motivated by improved biodiversity and reclamation of natural water systems, but also improved economic and social welfare due to an increased number of jobs in farming and forestry.

Canopies in tropical and temperate forests can be important habitats for many animals and plants. A dense canopy cover will let little light reach the ground and will lower temperatures.
The canopy protects the ground from the force of rainfall and makes wind force more moderate

OSERVATION

1. In the college premises there are number of trees which are maintained by the college.
2. College geographical area is under water scarcity prone and low tree/forest cover. So college has taken initiative to build the forest cover in huge college campus. And also taking awareness programme for tree plantation in the region.
3. College also taken awareness programme for soil conservation on “World Soil Day”

Tree Plantation Programme

4. PLASTIC AND PAPER FREE CAMPAIGN

INTRODUCTION

As single used plastic is hazardous to the environment as it is once used cannot be recycled. Also paper is used in college for various purposes like student assignments, official works etc.

RECOMMENDATION

1. It is recommended that college should take plastic free campaign in the college.
2. It also recommended that college take initiative to lower the usage of paper in the college and possible make system digitalised.

Example of Plastic free campaign initiative

5. CLEANLINESS CAMPAIGN/ OTHER ENVIRONMENTAL, HEALTH SAFETY ACTIVITIES ETC

सकाळ

पुणे, सोमवार, ७ ऑक्टोबर २०१९ ३

मणकर्णिका नदी विद्यार्थ्यांनी केली स्वच्छ

पारनेर महाविद्यालयातील राष्ट्रीय सेवा योजनेचा उपक्रम

[illegible]

पारनेर : महाविद्यालयाच्या वतीने स्वच्छता अभियानाअंतर्गत [illegible] मणकर्णिका नदीची स्वच्छता करताना विद्यार्थी व प्राध्यापक.

पुण्य नगरी

पुणेवाडी येथे जलसंधारण शिबिराचे आयोजन

[illegible]

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नगर सह्याद्री

बुधवार, दि. १० जुलै २०१९ । किंमत – २ रुपये (पाने ६) ■ nagarsahyadri@gmail.com ■ ANR/055/2018-2

पारनेरच्या राष्ट्रीय छात्र सेना स्वयंसेवकांची

पर्यावरण प्रदूषणपर जनजागृती

पारनेर । नगर सह्याद्री

राष्ट्रीय छात्र सेना, न्यू आर्टस कॉमर्स ॲण्ड सायन्स कॉलेज पारनेर व राष्ट्रीय छात्र सेना न्यू इंग्लिश स्कूल पारनेर यांच्या संयुक्त विद्यमाने पारनेरमध्ये हवा प्रदूषण जनजागृती फेरीचे आयोजन करून पर्यावरण विषयक समस्यांची जागृती केली. या दरम्यान महाविद्यालयाचे प्राचार्य डॉ.रंगनाथ आहेर यांनी छात्र सेनेच्या स्वयंसेवकांना पर्यावरण जनजागृतीचे महत्व सांगितले. पर्यावरणाचे संरक्षण करणे ही आपली सामूहिक जबाबदारी आहे. प्रत्येकाने पर्यावरणा विषयी जागृक राहीले पाहीजे. कोणत्या ही प्रकारे निसर्गाची हानी होणार नाही याची काळजी घेतली पाहिजे.भविष्यातील धोके लक्षात घेउन निसर्गाचा समतोल कसा राखता येईल. याचा विचार प्रत्येकाच्या मनात बिंबवला पाहीजे तरच खऱ्या अर्थाने जनजागृती होवू शकते असे मत प्राचार्य डॉ.रंगनाथ आहेर यांनी मांडले.

या जनजागृती रॅलीत उपप्राचार्य डॉ.दिलीप दुबे, लेप्टनंट प्रा.भरत डगळे, प्रा.संतोष, विद्यार्थी विकास मंडळ अधिकारी प्रा.दत्तात्रय घुंगार्डे, राष्ट्रीय सेवा योजना कार्यक्रम अधिकारी प्रा.संजय आहेर, डॉ. रविंद्र देशमुख, प्रा.महेश आहेर, परिवेक्षक प्रा.संजय कोल्हे, कार्यालयीन अधीक्षक सुनिल घव्हाण तसेच राष्ट्रीय छात्र सेनेचे स्वयंसेवक व महाविद्यालयातील इतर विद्यार्थ्यांसह १७ महाराष्ट्र बटालीयनचे कमांडींग ऑफीसर लेप्टनंट कर्नल जीवन झेंडे, कर्नल विक्रम दाते, सुभेदार मेजर अजय कुमार यांचे मार्गदर्शन लाभले.

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नगर सह्याद्री

शुक्रवार, दि. १५ नोव्हेंबर २०१९ । किंमत – २ रुपये (पाने ६) ■ nagarsahyadri@gmail.com ■ ANR/055/2018-2020 ■ RN

नगर सह्याद्री अहमदनगर ग्रामीण

पारनेर महाविद्यालयास व्यसनमुक्ती अभियानासाठी सुवर्ण पदक

पुणे विद्यापीठात अव्वल

पारनेर । नगर सह्याद्री

पारनेर महाविद्यालयाच्या राष्ट्रीय सेवा योजना विभागाने १४ उपक्रमव्यसनमुक्ती संदर्भात अपूर्ण तालुक्यात कार्यक्रम घेतले व व्यसनमुक्तीसाठी जनजागृती केली, या भरीव कार्याबद्दल महाविद्यालयास सावित्रीबाई फुले पुणे विद्यापीठामार्फतीने व्यसनमुक्तीबाबत प्रभावी जनजागृती केल्याबद्दल सुवर्ण व रौप्य पदक मिळाले. पारनेर महाविद्यालय हे पुणे, नाशिक, अहमदनगर जिल्ह्यातील

महाविद्यालयास व्यसनमुक्ती संदर्भात पुणे विद्यापीठांतर्गत राष्ट्रीय सेवा योजना व सर्व जगजागृतीकरण व्यसनमुक्ती जागृती करते त्या अंतर्गत प्रभावी जनजागृती केल्याबद्दल हे सुवर्ण व रौप्य पदक मिळाले.

पारनेर महाविद्यालयाच्या राष्ट्रीय सेवा योजना विभागाने गावो गावी जाऊन व्यसनमुक्ती जनजागृती घडवुन आणली त्यामध्ये प्रामुख्याने पारनेर कादर, सुपा, कान्हुर पठार, राळेगण सिद्धी, अशा अनेक छोट्या मोठ्या तालुक्यातील अनेक गावांमध्ये जाऊन काम महाविद्यालयातील मुलांना व्यसनमुक्ती बाबत देऊन व्यसनमुक्ती पर पथनाट्य व नागरिकांमध्ये जनजागृती केली. या यशाबद्दल संस्थेचे अध्यक्ष मानी आमदार नंदकुमार झावरे, उपाध्यक्ष सचिव दरे, सचिव जी. डी. खानदेश, विश्वासराव आठरे, विवेक भापकर, पारनेर पंचायत समितीचे माजी सभापती राहुल झावरे आदींनी पारनेर महाविद्यालयाच्या राष्ट्रीय सेवा योजना विभागाचे कौतुक केले.

व्यसनमुक्ती अभियान यशस्वीसाठी उपप्राचार्य डॉ दिलीप दुबे यांचे वेळोवेळी मार्गदर्शन लाभले तसेच राष्ट्रीय सेवा अधिकारी डॉ सुनिल कान यांचे वेळोवेळी

महाविद्यालयाने समाजाप्रती दायित्व सिद्ध

महाविद्यालयात शैक्षणिक गुणवत्तेकडेच इतर सामाजिक कार्यात पण दोते. आपली समाजाप्रती असलेली भूमिका निभावते व अशा उपक्रमातून युवा शक्ती जागृत करण्याचे काम करत आहे. म्हणून असा उपक्रम हाती घेतला. या उपक्रमातून महाविद्यालयाने समाजाप्रती दायित्व सिद्ध केले.

-डॉ रंगनाथ आहेर, प्राचार्य, पारनेर महाविद्यालय.

अशा उपक्रमातून वाईट प्रवृत्तींना रोखण्याचे काम

समाजात जी बेकारी निर्माण झाली आहे, अनेक तरुण व्यसनाच्या आहारी गेल्यामुळे आपला परिवारचे नाते बद झाले आहेत. असा उपक्रम घेतले पाहिजे. या उपक्रमातून वाईट प्रवृत्तींना रोखण्याचे काम आता उपक्रमातून होऊन एक जागृती होऊन परिस्थितीत बदल होऊ शकतो.

-राहुल झावरे, माजी सभापती, पंचायत समिती, पारनेर.

बहु मोल मार्गदर्शन लाभले कार्यक्रम अधिकारी प्रा. संजय आहेर यांचा मार्गदर्शन खाली सावेगावी जाऊन पथनाट्य सादर करून जागृती केली व विशेष परिश्रम घेतले. अभियान यशस्वी होण्यासाठी कार्यक्रम अधिकारी कोल्हे आहेर विशेष परिश्रम घेतले तसेच डॉ. अशोक कोपनर, डॉ. हरिष सोळके, प्रा. सिंह सरोदे, प्रा. नवनाथ शेडे, कार्यालयीन अधिक्षक सुनील घव्हाण, ग्रंथपाल जगदाळे यांचे देखील मार्गदर्शन लाभले. राष्ट्रीय सेवा योजनेच्या सर्व स्वयंसेवकांचा अभ्यास परिश्रमातून पदक मिळाले.

Various Activities related to Environmental Conservation conducted by College

New Arts, Commerce and Science College , Parner

Activities related to Environmental Conservation

Sr.No	Seminar/conference	Level	Date
1.	Van Mohatsav- Tree Plantation	~~State~~ National	01-07 July.,2017
2.	7th International Conferences on Recent Trends in Life Sciences	International	29-30 Dec.,2017
3.	Gad Kille Savardhan	Workshop	08 Dec.,2018
4.	Swatch Bharat Abhiyan	Rally	11-18 Dec.,2018
5.	Safety Awareness in chemical Laboratory & Industry	Workshop	16 Jan.,2019
6.	Integrated Pest Management	Workshop	11 Feb.,2019
7.	Swatch Bharat- West & Wealth	State	29 Dec.,2019
8.	Project Work soil Analysis & Bio fertilizer Isolation and mass production	Workshop	20 Aug., 2019
9.	Green Chemistry Methodology	~~State~~ workshop	08 Aug.,2019
10.	Importance of Ozone layer	Workshop	16 Oct.,2019
11.	Threats to Bird Community - on the Occasion of Birds Week	National Webinar	05-12 Nov., 2020

PRINCIPAL
New Arts, Commerces & Science College
Parner, Tal. Parner, Dist. Ahmednagar

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