

**7.1.6. Quality audits on environment and energy are regularly undertaken by the institution**

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AHMEDNAGAR JILHA MARATHA VIDYA PRASARAK SAMAJ'S

## NEW ARTS, COMMERCE AND SCIENCE COLLEGE

LAL TAKI ROAD, AHMEDNAGAR - 414 001 (M.S.), TEL. : 0241-2324024, FAX : 0241-2324715

E-mail : nacasca@rediffmail.com, Website : newartsnagar.com

PRINCIPAL  
**DR. B. H. ZAWAI**  
M.Sc., Ph.D.

### CERTIFICATE

This is to certify that, **Post-graduate Department and Research Centre of Environmental Science, New Arts, Commerce and Science College, Ahmednagar** has conducted the **Green Audit** of Institute of Hotel Management and Catering Technology, Ahmednagar.

The activities and measures carried out by the college have been verified based on the submitted report, on-site verification and was found satisfactory. The efforts taken by the college towards environment and sustainability are appreciating.

Place: **Ahmednagar**

Date: **05 January 2019**

HEAD  
Dept. of Environmental Science  
New Arts Commerce & Science  
College, Ahmednagar

PRINCIPAL  
New Arts, Commerce & Science  
College, Ahmednagar



I/c. Principal  
Institute of  
Hotel Management & Catering Technology  
Lal Taki Road, AHMEDNAGAR-414 001



Ahmednagar Jilha Maratha Vidya Prasarak Samaj's  
**NEW ARTS, COMMERCE AND SCIENCE COLLEGE  
(AUTONOMOUS)**

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TEL: 0241-2324024, FAX: 0241-2324715, AISHE Code : C-41908  
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PRINCIPAL  
**DR. B. H. ZAWARE**  
M.Sc., Ph.D.

Ref. No. **IGAC/33** |2021-2022|

Date - **09.09.2021**

### Testimonial

This college has the Environmental Studies department. It imparts undergraduate and post graduate studies as well as is a recognized research center of the S.P. Pune University. Till date a large number of students have passed out successfully. The faculty in the department also carries out research activities some of which have been funded by agencies like UGC, SPPU, Pune etc.

Moreover, the department also carries out consultation activities like environmental audits. Under this activity the department has independently and impartially carried out the environmental audit of A.J.M.V.P.S Institute of Hotel Management and Catering Technology, Ahmednagar. All the facts presented in the report are true and correct to the best of our knowledge.

This college has been approved by the UGC under the Paramarsh Scheme. One of its activities is to guide different colleges / institutes in terms of quality improvement status. Hence the college is a Mentor of Institute of Hotel Management and Catering Technology, Ahmednagar. As a result, this college coordinates / provides the necessary assistance to the mentee. The Environmental audit carried out for mentee is one such activity. This report may be accepted in good faith.



**DR. B. H. ZAWARE**  
PRINCIPAL

New Arts, Commerce and Science College  
Ahmednagar-414001



**[Signature]**  
I/c. Principal  
Institute of  
Hotel Management & Catering Technology  
Lal Taki Road, AHMEDNAGAR-414 001



## Environment Audit



Ahmednagar Jilba Maratha Vidya Prasarak Samaj's  
**INSTITUTE OF  
HOTEL MANAGEMENT AND CATERING TECHNOLOGY  
AHMEDNAGAR**  
Lal Taki Road, Ahmednagar – 414001



## ENVIRONMENT AUDIT REPORT 2019 – 20



Latitude: 19.102511  
Longitude: 74.732702  
Elevation: 655.0±3 m  
Accuracy: 3.4 m  
Time: 08-02-2021 15:42  
Note: College Building

Downloaded by: Maheshram

Prepared By:  
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New Arts, Commerce and Science College, Ahmednagar  
Environment Audit IHMCT Ahmednagar 2019-20



## Environment Audit

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**ACKNOWLEDGEMENT**

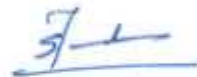
*Department of Environmental Science are thankful to the Management and the Principal of the A.J.M.V.P.S Institute of Hotel Management and Catering Technology, Ahmednagar for entrusting processes of Green auditing with us. We thank all the participants of the auditing team especially students, faculty and non-teaching staff who took pain along with us to gather data through survey. We also thank the office staff who helped us during the document verification.*



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New Arts Commerce and Science College,  
Ahmednagar**



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### Introduction:

Environmental auditing is a systematic process for assessing the effects of organization's activities and services on the environment. Depending on the categories of norms and the focus of the audit, there are different types of environmental audit. Organizations' of all kinds now identify the importance of environmental matters and accept that their environmental performance will be inspected by a wide range of interested parties. Environmental auditing is used to investigate, understand and identify the measures and practices that will be advantageous for the environment. It was initiated with the motive of inspecting the work conducted within the organization. The organization's environment auditing process is conducted periodically; performance is tested against its environmental policies and is documented. This promotes good environment management and helps to explore improvement opportunities. Thus through environment audits one gets an idea as to handle the environmental issues.





### About the Institute:

The **A.J.M.V.P.S Institute of Hotel Management and Catering Technology, Ahmednagar** has been established in 1997. It has the approval of the All India Council of Technical Education (New Delhi), Govt. of Maharashtra, Director of Technical Education (Mumbai) and is affiliated to Savitribai Phule Pune University (formerly known as University of Pune). The college has played a pivotal role in the socio-economic development of the rural, suburban and urban areas of Ahmednagar. The Management Council of the college had envisioned the delivery of quality education wedded with spiritual values to the emerging young population of the region.

The college has 9 regular faculty members for the department of Hotel Management. 33% of the faculties are women. The total number of non-teaching staff is 6. The college has total student strength of 242 of which 19.36 % are girls.

The college administration is assisted and advised by the Governing Body, College Development Committee and IQAC.

The College has an automated library with over 4500 books and also has access to online journals. The college is credited with well established Training and Placement assistance cell in its campus. Some of the teachers have publications in national journals and periodicals. The college regularly undertakes awareness program and workshops for local society. The college regularly organizes talks by experts every year.

Students actively participate in co-curricular and extracurricular activities of the institute and also have proved their caliber in intercollegiate events. The college gives due importance to the wholesome development of the human personality. Various activities are conducted under National Service Scheme.

The recreational facilities like Tourism day, Bread day celebrations, inter-class competitions, cultural celebrations, Fresher's Party, Farewell party, Theme Dinners and Food festival are the means of unearthing the best talents hidden in each student. On infra-structural front, the college has state of the art facilities. It has 1 seminar hall, 2 computer laboratories, 4 ICT enabled class rooms, 7 laboratories viz., Kitchens, Restaurants, Housekeeping and Front Office.

## Environment Audit

### VISION:

'*Tejo Si Tejo Me Dehi*'- This when translated means 'I will burn my life to enlighten the life of others'.

### MISSION:

- To provide education access to all strata's of the society.
- To impart comprehensive hospitality education.
- To inculcate moral and ethical values for social and national integration and progress.
- To develop cordial relations with the industry for research, training and placement.
- To enhance professionalism in aspirants to attain global competency.

In the **A.J.M.V.P.S Institute of Hotel Management and Catering Technology, Ahmednagar** audit process involved initial interviews with management to clarify policies, activities, records and the co-operation of staff and students in the implementation of mitigation measures. The data was collected through the questionnaire based survey, review of records, observation of practices and observable outcomes. In addition, the approach ensured that the management and staff are active participants in the green auditing process in the college.

The baseline data prepared for the **A.J.M.V.P.S Institute of Hotel Management and Catering Technology, Ahmednagar** will be a useful tool for campus greening, resource management, planning of future projects, and a document for implementation of sustainable development of the college. Existing data will allow the college to compare its programs and operations with those of peer institutions, identify areas in need of improvement, and prioritize the implementation of future projects. The green audit reports assist in the process of attaining an eco-friendly approach to the sustainable development of the college. Hope that the results presented in the green auditing report will serve as a guide for educating the college community on the existing environment related practices and resource usage at the college as well as spawn new activities and innovative practices. We expect that the management will be committed to implement the green audit recommendations.

We are happy to submit this green audit report to the authorities of **A.J.M.V.P.S Institute of Hotel Management and Catering Technology, Ahmednagar**.





PHOTO OF THE INSTITUTE



## Environment Audit



**SATELITE VIEW OF  
A.J.M.V.P.S Institute of Hotel Management and Catering Technology,  
Ahmednagar**





## Environment Audit

### Institute's Profile:

Table No.1 Program wise Intake:

Sr. No.	Program	Intake
1	Bachelor of Science in Hospitality Studies	60
2	Bachelor of Hotel Management and Catering Technology	30
	<b>Total</b>	<b>90</b>

Table No.2 Class wise Student Strength:

Sr. No.	Program	Class	No. of Student
1	Bachelor of Science in Hospitality Studies	First Year	60
		Second Year	43
		Third Year	35
2	Bachelor of Hotel Management and Catering Technology	First Year	20
		Second Year	23
		Third Year	26
		Fourth Year	35
	<b>Total</b>		<b>242</b>



## Environment Audit

**Table No. 3 Total Campus Area & College Building:**

<b>Campus area</b>	2515 Sq. Meter
<b>Built up area</b>	1699.47 Sq. Meter
<b>Landscape Area</b>	5759.99 Sq. Meter

**Table No.4 List of plants in the college campus:**

Sr. No.	Name of Plants	No. of Plants
1	Abelmoschus esculentus	50
2	Acacia mangium	10
3	Acacia pycnanth	5
4	Acalypha wilkesiana	5
5	Achras sapota	3
6.	Mangifera indica	2
7	Annona Squamosa	3
8	Acacia Catechu	1
9	Dalbergia sissoo	1
10	Delonix regia	2
11	Ficus bengalensis	1
12	Nerium oleander	2
13	Polyanthia longifolia	3
14	Syzygium cuminii	2
15	Tectona grandis	2
16	Acacia melanoxylon	2



## Environment Audit

### Committee: Environmental Conservation:

Sr. No.	Name of the Teacher	Designation
1	Prof. Y. S. Sadre I/C Principal	Chairman
2	Prof. B. R. Shendage Assistant Professor	Coordinator
3	Prof. V. U. Maniyar Assistant Professor	Member

### Functions of Environment Conservation Committee:

1. Educate the stake holder of the institute about concept and importance of being Eco-friendly.
2. Ensure that environment friendly practices are followed in the institute.
3. Establish guideline for waste reduction programs to be followed in the institute and convey same to all.
4. Find the areas of Waste generation and provide waste reduction solution.
5. Control Usage of Water by providing and maintaining plumbing fixtures.
6. Give instructions to all about use of electrical appliances.
7. Display sign boards in prominent areas.
8. Ensure that preventive maintenance practice is followed in the institute to reduce wastage of water, electricity and gas.
9. Conduct Tree plantation activity every year.



## Environment Audit

### Methodology:

In order to perform green audit, the methodology included different tools such as preparation of questionnaire, physical inspection of the campus, observation and review of the documentation, interviewing key persons and data analysis, measurements and recommendations.

The study covered the following areas to summarize the present status of environment management in the campus:

- Water management
- Energy Conservation
- Waste management
- E-waste management
- Green area management
- Human Health and Safety





## Environment Audit

### Water Management

**Water use:-** This indicator addresses water consumption, water sources, irrigation, storm water, appliances and fixtures. A water audit is an on-site survey and assessment to determine the water use and hence improving the efficiency of its use.

#### Observations:

The study observed that College get water from two sources -

- Drinking water from Mula dam through Ahmednagar Municipal Corporation pipeline connection and stored in the tank. It is then pumped and stored in overhead tank located on the top of the building from where it is circulated in the building.
- Water from the well located in the campus. Water is pumped from there and stored in the separate overhead tank located on the top of the building from where it is circulated in the building. This water is used for washrooms, laboratories and gardening.

During the survey, no loss of water observed, due to any leakages. The data collected from all the departments is examined and verified. On an average the total use of water in the college is 7500 litre/day, which includes approx. 4750 litre/day for drinking and laboratories purposes, 700 litre/day for gardening and 2000 litre/day for washrooms.

**Table No.5 Record water use from the college for six months.**

Month (2019)	Use of Water (in litres)
July	7000
August	7500
September	7900
October	7950
November	7400
December	7700
<b>Total</b>	<b>45450</b>



## Environment Audit

**Table No. 6 Record of water use in college for month:**

Sr. No.	Area	Quantity of Water	
1	Garden	700	
2	Laboratories	Drinking	750
		Used	4000
3	Bathrooms & Urinal	2000	
<b>Total</b>		<b>7450</b>	



**Sign Water and RO treatment of water**



To make sure that there is no wastage of water following steps are initiated-

- a) It is ensured that all taps are closed when not in use.
- b) Main tap of point of entry level pipeline are closed when not required.
- c) Tap aerators are fixed in Advance training kitchen and washrooms.
- d) Instructions are given to control the use of water flow during practical.



## Environment Audit

### Suggestions to the college to save water:

- Rain water harvesting systems should be implemented.
- Posters could be placed at the wash areas as well as toilets to make the students aware about the value of water resources.
- The water over flowing from the tank should be collected and reused for gardening or any other purposes.
- Automated sensors can be installed in order to prevent the over flow of water from tanks.
- Awareness campaigns can be held in the campus for the students to save water.
- Automated taps could be used so that usage of water can be reduced.
- Awareness campaigns can be conducted among students.
- Periodical maintenance of water taps should be done in order to prevent the leakage of water through taps.
- Drip irrigation for gardens and vegetable cultivation can be initiated.
- Establish water treatment systems.
- Awareness programs on water conservation to be conducted.



## Environment Audit

### Energy use and Conservation:

This indicator addresses energy consumption, energy sources, energy monitoring, lighting, appliance, natural gas and vehicles. Energy use is clearly an important aspect of campus sustainability and thus requires no explanation for its inclusion in the assessment.

### Observations:

Energy source utilized by institute is Electricity and LPG. Total energy consumption is determined as 39552 kwh/year by major energy consuming equipments. All the departments and common facility centers are equipped with fluorescent lamps. Equipments like Computers, printers, scanners, photocopying machines are used with power saving mode. The college is aware about energy conservation and taking effort to save energy. To conserve energy and save money, the trust has installed a 100 KV solar system. It helps as an alternative source of electricity. Due to this the electricity consumption in the campus has reduced down considerably. The institute is well benefitted with the same.





## Environment Audit

### Calculation of energy for electrical appliances:

Appliance	Power used in (Watt)	Usage per Day (Hrs)	No. of Appliances	Average Kw Hr per Day (watt X hr X No. / 1000)	Average kWh per Day (watt X Hrs X No. X 1000 X 30 (20/26/30))
Tube	36	0.77	122	3.38184	87.9278
CFL	5	0.467	5	0.01168	0.30355
LED	15	3	26	1.17	23.4
LED	12	3	4	0.144	2.88
LED	3	3	4	0.036	0.72
LED Strip	5	0.1	3	0.0015	0.045
Corridor LED	12	1	11	0.132	3.432
Computer	200	2	26	10.4	270.4
SC/ Fans	75	1.32	50	4.95	128.7
Printer	250	0.25	5	0.3125	8.125
Weighing Balance	5	1	3	0.015	0.39
Exhaust Fan	55	1.029	17	0.96212	25.015
Big Oven	2500	2	1	5	130
Microwave Oven	1500	0.50	1	0.75	19.5
OTG	2200	0.50	2	2.2	57.2
Mixer	1500	1	3	4.5	117
Refrigerator	40	24	2	1.92	57.6
Deep Freezer	2000	24	1	48	1440
Pulverizer	750	0.50	1	0.375	9.75
Water Cooler	575	6	2	6.9	179.4
	1500	6	2	18	468
Projectors	282	2	5	2.82	73.32
Photocopy Machine	1500	1	1	1.5	39
Laptop	50	1.5	3	0.225	5.85
Washing Machine	500	0.13	1	0.065	1.69
Street Light	144	12	2	3.45	103.68
Inverter	2200	0.66	1	1.45	43.56



## Environment Audit

### Solar Grid and Inverter:





## Environment Audit

### Ventilated classrooms:

The college has designed the classes to be full of ventilation, well lit and spacious so that students do not face any difficulty for their regular lectures.



## Environment Audit

### Recommendations:

- Installation of LED lamps instead of CFL and fluorescent tubes.
- Support renewable and carbon-neutral electricity options on any energy purchasing consortium, with the aim of supplying all college properties with electricity that can be attributed to renewable and carbon-neutral sources.
- Appreciate that it is preferable to purchase electricity from a company that invests in new sources of renewable and carbon-neutral electricity.
- Conduct save energy awareness programs for students and staff.
- More energy efficient fans should be installed.
- Observe a power saving day every year.





## Environment Audit

### Waste Management:

Waste management has become important requirement in order to control pollution and health hazards and needs additional national expenditure. It is thus essential to properly manage disposal of all wastes. In the institute waste is generated in different forms like solid, liquid and e-waste.

Waste is collected in the garbage bins and is collected by the municipal corporation. During the conduct of practicals dry and wet solid waste is generated. These are collected in separate garbage bins, placed at different location.

Liquid Waste is channelized into a well maintained drainage line which is further attached to the municipal drainage system.

E-waste is generated in the form of CD's, DVD's, old version printers, keyboard, mouse, PC's, and accessories, cable cords. Such waste is handed over to the agency (scrap merchant) approved by the society. If old version of the equipment is functional then they are transferred to other sister units where it can be used. It usually involves units at remote places.

### Observations:

#### Solid waste Management

The total solid waste collected in the campus is 2020 Kg/Year. Waste generation from tree droppings and lawn management is a major solid waste generated in the campus. The waste is segregated at source by providing separate dustbins for bio-degradable and other waste. Single sided used papers reused for writing and printing in all departments.

#### Category wise solid waste generated (kg/year)

Sr. No.	Section	Category of Waste (kg)		Total Solid Waste	Description(Level) of Waste (high, Medium, low)
		Dry Waste	Wet Waste		
1	Campus	900	0	900	Low
2	Laboratories	160	960	1120	Low
				<b>2020 kg/year</b>	Low



## Environment Audit



Solid Waste sent to MNC waste collection



Solid Waste reused to make decorative articles used for Food Festival of the college

### Recommendations:

- Establish a functional bio gas plant.
- A model solid waste treatment system to be established.
- Avoid paper plates and cups for all functions in the college.



## Environment Audit

### Human Hygiene and Safety:

Personal hygiene is a concept that is commonly used in medical and public health practices. It is also widely practiced at institute level and at the individual level. It involves maintaining the cleanliness of our body and clothes. Personal hygiene is defined as a condition promoting sanitary practices to the self. Everybody has their own habits and standards that they have been taught or that they have learned from others. Generally, the practice of personal hygiene is employed to prevent or minimize the incidence and spread of communicable diseases.

### First AID Box:

First aid is an important tool to quickly respond to accidents or minor injuries that needs to be efficiently and promptly dealt with. First AID box has been set up in college so that emergency medical situations can be easily handled. The first aid may be required if students are injured during practicals or when in the campus.



### Convenience of Sanitary Napkin Machine:

Sanitary napkin machine is installed and is made available for girl students and women employees.



Environment Audit IHMCT Ahmednagar 2019-20



## Environment Audit

### Fire Safety:

Fire extinguishers have been installed in various places in the Institute.





## Environment Audit

### Blood Donation Camp:

Institute organized blood donation camp in coordination with Jankalyan Blood Bank. Students and faculties willingly donated blood as a noble cause.





## Environment Audit

### Green Area Management:

This includes the plants, greenery and sustainability of the campus to ensure that the buildings conform to green standards. This also helps in ensuring that the Environmental Policy is enacted, enforced and reviewed using various environmental awareness programs.

### Observations:

Campus is located in the vicinity of approximately 13 types (species) trees. Various tree plantation programs are being organized every year during the month of July and August at college campus or around Ahmednagar city. This program helps in encouraging eco-friendly environment which provides pure oxygen within the institute and awareness among commuters. The plantation program includes various types of indigenous species of ornamental and medicinal wild plant species.



## Environment Audit



Environment Audit IHMCT Ahmednagar 2019-20



## Environment Audit

### Conclusion and Recommendation:

All the parameters of environment audit were studied; information was collected, analyzed and followed with conclusions and recommendations.

It was first time the institute undertaken the environment audit and following details has been recorded:

- ❖ The institute has a green campus.
- ❖ The follows the system of segregation of waste and it is disposed to Municipal Corporation Waste Collection System.
- ❖ Waste bins are placed all over the campus.
- ❖ LPG gas is used in food production laboratories and proper safety measures are initiated by the institute.
- ❖ Institute conducts Tree Plantation as its regular activity and thus creates environment awareness among the stakeholders.

### Overall Recommendations:

- ❖ Adopt and practice an environmental policy for the institute.
- ❖ Establish a purchase policy towards environmental friendly materials.
- ❖ Introduce UGC Environmental Science course to all students.
- ❖ Conduct seminars and group discussions on environmental education.
- ❖ Students and staff can be permitted to solve local environmental problems.
- ❖ Renovation of cooking system to save gas.
- ❖ Establish water waste and energy management systems.
- ❖ Establish rain water harvesting systems for building.
- ❖ Automatic power switch off systems may be introduced.
- ❖ A model vermicomposting plant to be set up in the college campus.
- ❖ Establish a plastic free campus.





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Approved by AICTE, Govt. of Maharashtra, DTE & Affiliated to Uni. of Pune



Environmental Policy



### ENVIRONMENTAL POLICY

Institute is devoted towards the environmental friendly practices in its day to day activities and also during various curricular and co curricular activities. As it is said "Save the Environment, Save the Nature", Institute regularly conducts tree plantation activity in the campus and nearby locations around the city. The management, staff and the students are committed towards preservation of environment.

The Institute ensures that all stakeholders are aware of its environmental policy. This is encouraged through various initiatives of the institute.

**1. Green Campus:**

Institute has a Green Campus which has been properly design, developed and well maintained in front of the building which has a lawn, hedges and varieties of trees.

**2. Plastic-free campus:**

Institute discourages the use of disposable material. The grocery purchase for food production practical are received in paper bags and for vegetable and other items cloths bags are used.

**3. Use of Energy Efficient Equipments:**

Fused Electrical bulbs and lights are replaced with energy efficient ones (LED).

**4. Safe Drinking Water:**

The purified drinking water facility is made available in the campus for students and staff.

**5. Toxic free Campus:**

In institute, Consumption of tobacco, tobacco products and Chewing gum are prohibited. Sign Boards are displayed at prominent places to increase the awareness about tobacco free campus

**6. Recycle:**

Blank sides of printed papers are used for printing of academic work, Students notices, attendance etc. Old linen is used as dusters and wiping cloths.





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