NATURE SCIENCE FOUNDATION
Coimbatore 641 004, Tamil Nadu, India

APLICATION FORM AND CHECKLIST OF ENVIRONMENTAL AUDIT

Reference Number	NSF/AAC/2.2 Date of Audit:
Name of the Organization & Address	
Name of the Lead Auditing Chairman	
Name of the Team Leader & Member	
Name of the Subject Experts	
Is it a new Audit (or) renewal process?	New audit (or) Renewal audit, tick (√) any one. If it is a Renewal audit, mention the date of last audit:
Purpose	To ensure that the environmental management system, maintenance of ecofriendly campus which lead environmentclean and neat, solid waste management, recycling of water, disposal of sewage and waste materials, landscape management, carbon footprint and zero emission vehicle policy for eco- friendly covers, etc. implemented effectively for the benefit of the stakeholders. Ecofriendly youth leadership, green practices, social responsibility and Institutional values are to comprehend the relationship with the ecosystem for sustainable environment.

PROCEDURE

Procedure	Description	Responsibility
Annual plan	Each year a plan for an internal Environmental audit is prepared by Management and to ensure that the environmental management system is implemented in the campus.	Management Representative(s)
Walk-through Audit	Based on the checklists, the environmentalaudit is carried out in the form of observations in the campus.	Audit team
Follow-up of action	Corrective action has to be undertaken and implemented within the prescribed duration.	Environmental Coordinator
Reporting and Recommendations	Submission of corrective action in the form of report in association with Eco club / Student Chapters of the Institute.	Audit team

I. Organization details

1. Total Campus Area_____, Building/constructed area_____, Open area_____
2. Year of establishment:
3. Total Strength of Students:_____(No. of Boys_____and No. of Girls_____)
4. Total Strength of Employees:_____(No. of Males____and No. of Females___)
5. Total Strength of Teaching Members_____and Non-Teaching Members _
6. Year of previous NAAC Accreditation:_____Grade Obtained: _____
7. Total land area in the campus covered with forest vegetation (Natural) and planted vegetation(Artificial/Man-made):
8. The total open space area divided by total campus population:
9. Total Number of vehicles (No. of Buses:_, No. of Cars:_, No. of Motorcycles:_, No. of Trucks:____, No. of any other vehicles:_____)

II. Qualitative and Quantitative Measurements

S.No.	Requirements and checklists of the audit	Conformity			Weightage
		Yes	No	NA	
	Mandatory Parameters				
1.	Have internal Environment audit procedures been developed and implemented by the Organization?				3
2.	Have programmes for the achievement of environmental objectives and targets been established and implemented as on date?				3
3.	How responsibilities been assigned for programmes at each appropriate function and level? (Any staff is assigned for environment monitoring in the campus)				4
4.	Availability of data on Physico-chemical properties of drinking water / RO water / Borewell water / Open well water / Pond water / Municipal or Corporation water (Data may be verified)				5
5.	Availability of wastewater treatment plant and solid waste management facility in the campus				5
6.	Availability of hazardous and toxic material disposal facility inthe campus				5
7.	Implementation of recycling processes through compostingpits, vermicompost unit, etc., for kitchen wastes collected from hostels, canteens, and other places				5
8.	Establishment of rain water harvesting system, water reservoirs, percolation ponds, check dam, etc.				5
9.	Availability of Incinerator for napkin disposal use				5
10.	Any bicycles, electric bikes and battery-operated electric car, Golf Cart vehicles for internal mobility for the stakeholders to maintain an eco-friendly campus to minimize the carbon emission?				5

11.	Sign boards indicating plastic free campus, tobacco free campus, don't waste water, don't walk on the lawns, don't plug flowers, etc. to create awareness to the stakeholders				5
12.	Are the dust bins and ecofriendly trashes kept across the campusto provide a dust free atmosphere to the stakeholders andwithout harming the environment which are labelled properly indicating degradable and non-degradable items				5
13.	Public transport, low-carbon emitting vehicles, battery operated vehicles, biofuel use and control of car smokes and exhaust with respect to routine FC services				5
Supplementary Parameters					
1.	Environment sustainability courses to the stakeholders (Environmental Science, Environmental Engineering, Environmental Management, Environmental Monitoring, Climate change, Global warming, etc.)				3
2.	Signing of MoU with Govt. and NGOs to ensure ecofriendly campus maintenance and studies				4
3.	Nature club, Eco club, Cell, Forum, Association, NCC, NSS bodies and Social Service League for Students and Staff members is functioning towards environment protection and nature conservation				4
4.	Conduct of awareness/outreach programmes and cultural / social activities for environmental monitoring and ecosystem maintenance to the stakeholders, urban, rural and tribal people				4
Exemplary Parameters					
1.	Steps taken for organic, inorganic, toxic, e-waste, biomedical, food, sewage waste management, segregation of wastes and reuse methods/recycling methods.				4
2.	Any steps taken to minimize the environmental degradation by means of 'Sanitation and hygiene policy', 'Waste management policy', 'Green campus and Environment policy' incollaboration with Governmental and Non-Governmental Organizations?				4
3.	Projects and Dissertation works and Scholarly publications related to nature conservation and environmental protection by students and staff members - Specify and show the records				4
4.	Helpline numbers for waste collection available in the campusfor door-to-door collection of wastes to avoid improper disposal by individuals				4
5.	Per capita water consumption per day of the campus				4
6.	Availability of Biogas plant				5
Total weightage					

Measurement of Carbon footprint in the Campus

The level of Carbon dioxide will be measured in different places across the Organization campus using a portable CO_2 Analyzer (Non dispersive infra-red meter). In addition, the atmospheric temperature, relative humidity and dew point will also be measured

using the advanced automatic CO_2 Analyzer. Carbon footprint will be calculated based on the stage of calculation as stated in the www.carbonfootprint.com, which is the sum of electricity usage per year and transportation per year.

a. Electricity usage per year (in metric tons/year)

The CO_2 emission from electricity

= (Electricity usage per year in kWh/1000) x 0.84, where 0.84 is the coefficient to convertkWh to metric tons

b. Transportation per year – Shuttle (in metric tons/year)

= (Number of the shuttle buses in the Campus x total trips for shuttle bus service each dayx approximate travel distance of a vehicle each day inside campus only (in km) x Numberof working days/100) x 0.01 where 0.01 is the coefficient to calculate the emission in metrictons per 100 km for bus

c. Transportation per year – Car (in metric tons/year)

= (Number of cars entering the Organization premises x total trips for cars service each dayx approximate travel distance of a vehicle each day inside campus only (in km) x Numberof working days/100) x 0.02 where 0.02 is the coefficient to calculate the emission in metrictons per 100 km for car

d. Transportation per year - Motorcycle (in metric tons/year)

= (Number of motorcycles entering your campus x total trips for motorcycles service eachday x approximate travel distance of a vehicle each day inside campus only (in km) x Number of working days/100) x 0.01 where 0.01 is the coefficient to calculate the emissionin metric tons per 100 km for motorcycle

e. Total Carbon dioxide emission per year (in metric tons/year)

= total emission from electricity usage + transportation (bus, car, motorcycle, trucks)

Reference of Set values of atmospheric CO_2 level

- 350-1000 ppm: Typical level found in occupied spaces with good air exchange along with pure air.
- 1000-2000 ppm: Moderate level associated with complaints of drowsiness and poor air quality.
- 2000-5000 ppm: Critical level associated with headaches, sleepiness and stagnant, stale, stuffy air. Poor concentration, loss of attention, increased heart beat rate and slight nausea may occur.

Note: *This Audit process and Certificates are valid for two years only from the date of Audit.*

Grading System of Certification

S.No	Descriptions	Grade	Weightage
1.	If Mandatory parameters are not fulfilled	Unsatisfactory/ Inadequate	< 40
2.	If Mandatory parameters are fulfilled	Satisfactory	41 - 60
3.	If Mandatory along with Supplementary parameters are fulfilled	Good	61 - 75
4.	If Mandatory along with Supplementary and Exemplary parameters are fulfilled	Very Good	> 75

Reference:

1. Gnanamangai, B.M., Murugananth, G. and Rajalakshmi, S. 2021. *A Manual on Environmental Management Audits to Educational Institutions and Industrial Sectors*. Laser Park Publishing House, Coimbatore, Tamil Nadu, India. 366 p. [ISBN 978-81-952088-4-5].
2. Rajalakshmi, S., Amzad Basha, K. and Asif Jamal, G.A. 2023. *A Manual on Waste Management Audit*. Laser Park Publishing House, Coimbatore, Tamil Nadu, India. 163 p. [ISBN 978-93-92032-34-9].
3. National Building Code of India 2016. Bureau of Indian Standards. Volume I and II, Manak Bhavan, Bahadur Shah Zafar Marg, New Delhi, India.

Prepared by	*Checked By*	*Approved by*
Programme Manager	Technical Manager	Quality Manager

Signature of the Director **Signature of the Lead Auditor**

Signature of the Team Leader **Signature of the Team Member**