

GREENAUDIT REPORT

2021-2022

MNR Dental College & Hospital



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INTRODUCTION:

Green Audit is a process of systematic identification, quantification, recording, reporting and analysis of components of environmental diversity of institute. It aims to analyses environmental practices within and outside of the concerned place, which will have an impact on the eco-friendly atmosphere. Green audit is a valuable means for a college to determine how and where they are using the most energy or water or other resources; the college can then consider how to implement changes and make savings. It can create health consciousness and promote environmental awareness, values and ethics. It provides staff and students better understanding of Green impact on campus. If self-enquiry is a natural and necessary outgrowth of a quality education, it could also be stated that institutional self-enquiry is a natural and necessary outgrowth of a quality educational institution. Thus, it is imperative that the college evaluate its own contributions toward a sustainable future. As environmental sustainability is becoming an increasingly important issue for the nation, the role of higher educational institutions in relation to environmental sustainability is more prevalent.

The rapid urbanization and economic development at local, regional and global level has led to several environmental and ecological crises. On this background it becomes essential to adopt the system of the Green Campus for the institutes which will lead for sustainable development and at the same time reduce a sizable amount of atmospheric CO₂ from the environment. The National Assessment and Accreditation Council, New Delhi (NAAC) has made it mandatory that all Higher Educational Institutions should submit an annual Green Audit Report. Moreover, it is part of Corporate Social Responsibility of the Higher Educational Institutions to ensure that they contribute towards the reduction of global warming through carbon footprint reduction measures.

OBJECTIVES:

In recent time, the Green Audit of an institution has been becoming a paramount important for self-assessment of the institution which reflects the role of the institution in mitigating the present environmental problems. The college has been putting efforts to keep our environment clean since its inception. Therefore, the purpose of the present green audit is to identify, quantify, describe and prioritize framework of Environment Sustainability in compliance with the applicable regulations, policies and standards. The main objectives of carrying out Green Audit are:

- To map the Geographical Location of the college
- To document the floral and faunal diversity of the college
- To record the meteorological parameter of MNR where college is situated
- To document the ambient environmental condition of weather, air, water and noise of the college
- To document the waste disposal system
- To estimate the Energy requirements of the college
- To report the expenditure on green initiatives during the last five years

METHODOLOGY:

The purpose of the green audit of MNR is to ensure that the practices followed in the campus are in accordance with the Green Policy of the country. The methodology includes: collection of data, physical inspection of the campus, observation and review of the documentation and data analysis.

ABOUT THE COLLEGE:

MNR Dental College is one of the prestigious institutions of MNR Educational Trust, Sangareddy, Telangana State. It was founded in 2006 with an undergraduate course in Dentistry, having an annual intake of 100 students. It is affiliated with the KNR University of Health Sciences, Warangal, Telangana State, and approved by the Dental Council of India, New Delhi and the Ministry of Health & Family Welfare, Govt. of India as per the notification No.V.12017/33/2004-DE, dated 6 April 2011.

The college received NAAC accreditation in the year 2017. The genesis of MNR Dental College lies in our conviction of creating an institution of excellence committed to Dental education, treatment, and research. The institute aims to create professionals with innovative approaches and new strategies at their hands.

At MNR Dental College, we try to inculcate scientific aptitude amongst the students through excellent laboratory training, classroom, and clinical teaching with our 760-bedded Medical College & Hospital. The faculty strives hard for the overall development of tomorrow's upcoming professionals. Nurtured with the special care and concern of the faculty members, MNR is marching towards the forefront in the field of Dentistry.

It has evolved into a beautiful paradise, which not only hones the skills of budding professionals but also provides the perfect and ideal environment for anyone who comes to us to quench their thirst for knowledge. MNR welcomes every prospective student with open hands to be part of our journey and discover a new world of skill and knowledge

The modern Dental hospital features state-of-the-art dental care facilities with highly experienced doctors and efficient staff. The Dental Hospital is equipped with specialized dental pre-clinical and clinical departments, including Oral Medicine and Radiology, Oral Surgery, Orthodontics, Periodontics, Pedodontics, Prosthodontics, Conservative and Endodontics, Oral pathology & microbiology, Public Health Dentistry.

VISION & MISSION STATEMENT:

Vision

The vision statement of MNR Medical College reflects our steadfastness to be at the forefront of providing quality education that enriches lives and eventually shapes the future of our nation. To be a Medical College where students will get an excellent education in medicine, maximum exposure to research, and equipped for excellence in patient care. It also envisions serving humanity by creating socially responsible, competent, and empathetic members of society for societal development.

- To evolve into a center of excellence, giving high-quality training for Education, Healthcare, and Technology to enrich lives.
- Strive to emerge as a center of excellence by continuing with a special focus on research and development.
- To be globally recognized as student-centric and synonymous with quality education and competence in various fields to produce successful professionals.
- To be compassionate in healthcare along with the emphasis on patient-centered care with quality service through education and advanced innovative practices.
- To educate and shape a new generation of students equipped to serve and face any challenges in this progressing dynamic world of augmented and virtual reality.
- To teach, train and instill in students emotional excellence, social consciousness, professional commitment, and ethical values so they can contribute and serve the world in better ways.

Mission

MNR Medical College's mission is to provide a student-centric learning environment. To educate and train students to become future medical professionals who have excellent academic knowledge, who can compete in the highest levels, and are committed to serving, guided by professional ethics and compassion. It aims to impact society on regional, national, and global levels. Our innovative, dedicated, and highly qualified pedagogy are focused and determined to make the mission possible. It also aims to provide student-centric learning environment with transformative and multi-faceted educational experience. Students not only learn but are invited to create new ideas.

- Promote research and development and shape the students by honing their innate skills so that they have the ability and readiness to develop entrepreneurship.
- Work out knowledge enhancement programs for students for societal development.
- Instill leadership skills and overall personality development among students, addressing their psychological and spiritual needs.
- Provide excellent state-of-the-art infrastructure, laboratories, workshops, libraries, research centers, and gym facilities.
- To contribute to the needs of society by shaping students through high-quality student-centric education and to be compassionate in healthcare along with the emphasis on patient-centered care through quality service.
- To educate and shape competitive and emotionally balanced professionals with strong social consciousness.
- To instill self-actualization in students and encourage them to find ways and methods to achieve it on their own.

GREEN AUDITING:

The college has adopted the 'Green Campus' system for environmental conservation and sustainability. There are three main pillars i.e. zero environmental foot print, positive impact on occupant health and performance and 100% graduates demonstrating environmental literacy. The goal is to reduce CO₂ emission, energy and water use, while creating atmosphere where students can learn and be healthy.

LAND USE ANALYSIS, MNR:

GENERAL OVERVIEW OF THE CONCEPT OF LANDUSE

Land use refers to man's activities and the various uses which are carried on and derived from land. Viewing the earth from space, it is now very crucial in man's activities on natural resource. In situations of rapid changes in land use, observations of the Earth from space give the information of human activities and utilization of the landscape.

Remote sensing and GIS techniques are now providing new tools for advanced land use mapping and planning. The collection of remotely sensed data facilitates the synoptic analyses of earth system, functions, patterning, and change in the local, regional as well as at global scales over time. Satellite imagery particularly is a valuable tool for generating land use map.

METHODOLOGY ADOPTED FOR LAND USE MAPPING

Three types of data that are GPS points, field survey data and Google earth data for Geo referencing have been used in this study. Land use map of the study area have been prepared using the above three types of data with the help of Arc Gis Pro software.

DATA PROCESSING AND ANALYSIS

Land use map preparation is executed through the following steps:

Acquisition of data, Geo-coding and Geo referencing of satellite imageries by extracting the ground control points. Supervised classification was carried out with the aid of ground truth data collected during field survey. Scanning and digitization of maps and editing of all the Georeferenced maps were done using GIS. Data manipulation and analysis and linking the spatial data with the attribute data for creation of topology was carried out using GIS software. Creation of GIS output in the form of land use map showing various land use have been prepared.

Therefore, attempt has been made in this study to map land use for MNR with a view to detect the land consumption in the built-up land area using both remote sensing and GIS techniques.

GEOGRAPHICAL LOCATION WITH CAMPUS MAP IN SCALE

The college has a **sprawling pollution-free campus spread over 100 acres of integrated campus** located at MNR Nagar, Fasalwadi, Narsapur Road, Sangareddy, Telangana State, India. It has an ideal geographical location with the proximity to the important cities of the region i.e. Karnataka, Telangana, Maharashtra.



Photo 1: Google Map of Campus

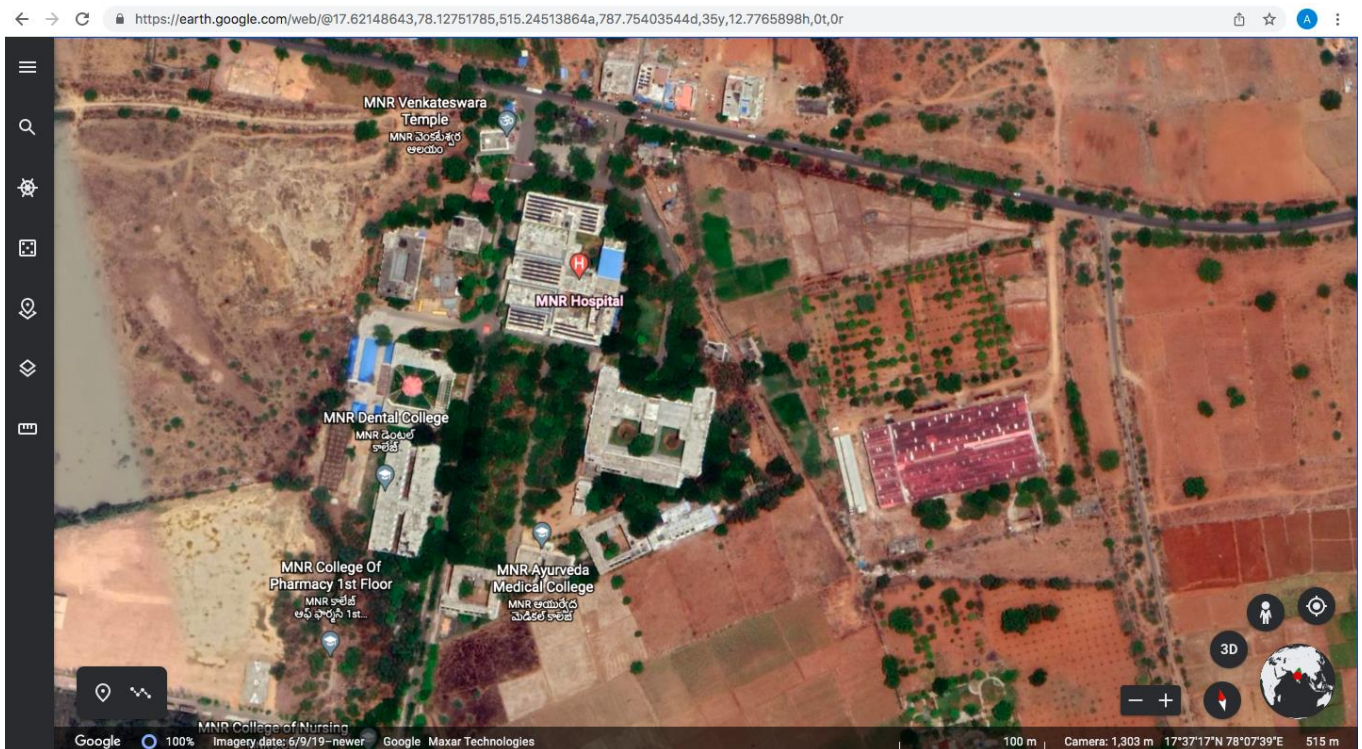
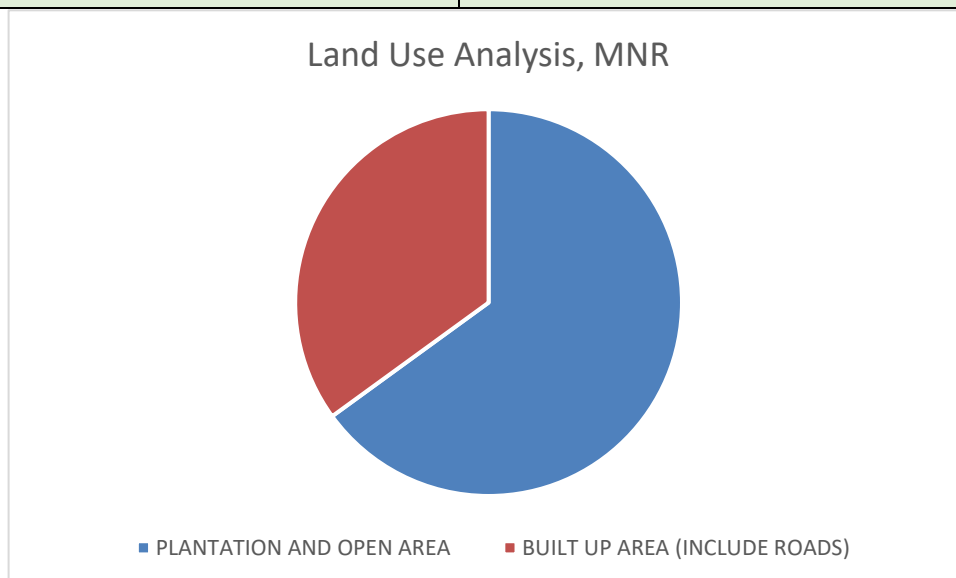


Photo 2: Aerial View of College Campus Part 2 (Source GoogleEarth)

LAND USE DATA OF MNR, SANGAREDDY

<i>CATEGORIES OF LAND USE</i>	<i>AREA (m²)</i>
PLANTATION AND OPEN AREA	26299
BUILT UP AREA (INCLUDE ROADS)	14161
TOTAL AREA	40460



The total area of MNR is 40,460 m² out of which the built up area (include Roads) is 35% (i.e 14161 m²) and plantation and open area is 65% (i.e. 26299 m²).

LAND USE (BUILT UP AREA) ANALYSIS:

The built up area of 35% (i.e 14161 m²) consists of the following regions as stated below for land consumption in built up area of MNR:

The Southern region of MNR Campus is densely built up having academic block, Knowledge Resource Centre,. The Eastern region consists of Cricket ground, Gymnasium and sports complex. The Northern region consists of Canteen and Workshops. The central region consists of Major auditorium. Girls and boys hostels are in the extreme eastern region.

FINDINGS:

MNR Campus has an eco-friendly environment. It has a long legacy of healthy environmental practices including periodic plantation, their preservation and maintenance. Its land use is such that about 65% of the total area is occupied by open land and plantation that generates a better and sustainable campus environment.

TREE DIVERSITY OF MNR, Sangareddy:

MNR is within the geo-position between latitude $17^{\circ} 37' 21''$ N and longitude $78^{\circ} 07' 35''$ E near, Hyderabad, Sangareddy, India. It encompasses an area of about 66 Acres. The area is immensely diverse with a variety of tree species performing a variety of functions. Most of these tree species are planted in different periods of time through various plantation programmes organised by the authority and have become an integral part of the campus. The trees of the campus have increased the quality of life, not only the campus fraternity but also the people around of the campus in terms of contributing to our environment by providing oxygen, improving air quality, climate amelioration, conservation of water, preserving soil, and supporting wildlife, controlling climate by moderating the effects of the sun, rain and wind. Leaves absorb and filter the sun's radiant energy, keeping things cool in summer. Many species of birds are dependent on these trees mainly for food and shelter. Nectar of flowers and plants is a favourite of birds and many insects. Leaf – covered branches keep many animals, such as birds and squirrels, out of reach of predators. Different species display a seemingly endless variety of shapes, forms, texture and vibrant colours. Even individual trees vary their appearance throughout the course of the year as the seasons change. The strength, long lifespan and regal stature of trees give them a monument – like quality. They also remind us the glorious history of MNR and our institution in particular. We often make an emotional connection with these trees and sometime become personally attached to the ones that we see every day. A thick belt of large shady trees in the periphery of the campus have found to be bringing down noise and cut down dust and storms. The following are the tree species with whom we are being attached-







Table: List of tree species of MNR, Sangareddy

S.No.	Botanical Name	Family	Common Name
1	Mangifera indica	Anacardiaceae	Mango
2	Alstonia Scholaris	Apocynaceae	Alstonia
3	Tabernaemontanadivaricata	Apocynaceae	Crape jasmine
4	Araucaria heterophylla	Araucariaceae	Christmas Tree
5	Hyophorbe lagenicaulis	Arecaceae	Bottle Palm
6	Roystonea regia	Arecaceae	Cuban royal palm
7	Phoenix sylvestris	Arecaceae	Badela Palm
8	Platycladusorientalis	Cupressaceae	Oriental thuja
9	Saraca asoca	Fabaceae	Ashoka
10	Dalbergia sissoo	Fabaceae	Sissu / Tali
11	Vachellia nilotica	Fabaceae	Kikar
12	Cassia fistula	Fabaceae	Golden shower tree
13	Delonix regia	Fabaceae	Royal Poinciana
14	Tamarindus indica	Fabaceae	Tamarind
15	Tectona grandis	Lamiaceae	Sagwan
16	Punica granatum	Lythraceae	Pomegranate
17	Chukrasia velutina	Meliaceae	Chukrasia tabularis
18	Azadirachta indica	Meliaceae	Neem
19	Melia azedarach	Meliaceae	umbrella tree
20	Toona ciliate	Meliaceae	Tun
21	Ficus religiosa	Moraceae	Peepal
22	Syzygium cumini	Myrtaceae	Jamun
23	Psidium	Myrtaceae	Gauva
24	Eucalypts	Myrtaceae	Safeda
25	Phyllanthus emblica	Phyllanthaceae	Gooseberry
26	Bambusoideae	Poaceae	Bamboo
27	Grevillea robusta	Proteaceae	Silver Oak
28	Ziziphus mauritiana	Rhamnaceae	Ber
29	Rosa	<i>Rosaceae</i>	Rose
30	Citrus limetta	Rutaceae	Mausambi
31	Aegle marmelos	Rutaceae	wood apple
32	Populus	Salicaceae	Poplar
33	Mimusops elengi	Sapotaceae	Maulsari
34	Ficus benjamina	Fig family	Faux
35	Bugal Bael		Bugal Bael
36	Ficus Benghalensis	Moraceae	Barota

37	Nemesia		Nemesia
38	Rakh Manjan		Rakh Manjan
39	Red Faux		Red Faux
40	Mimusops	Sapotaceae	Sari
41	Flower Faux		Flower Faux
42	Gul Lakkar		Gul Lakkar

FAUNAL DIVERSITY IN MNR CAMPUS:

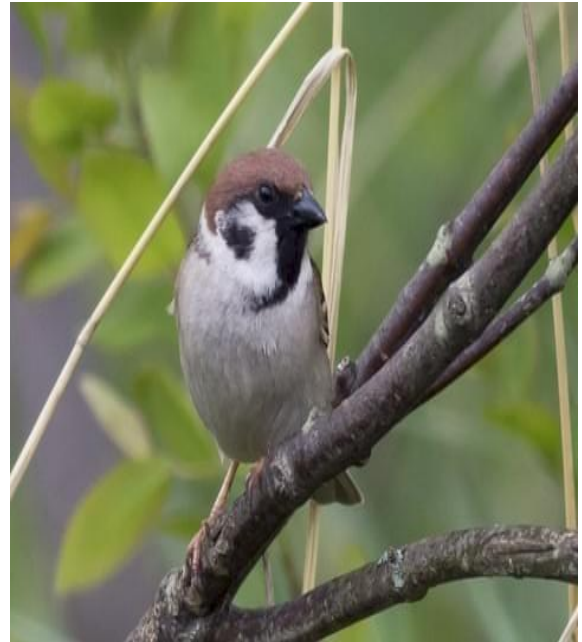
MNR is located in District of Sangareddy, Near Hyderabad. Indian State of Telangana. The highest temperature is recorded 42⁰ C just prior to the onset of monsoon (around May- early June). Summer rain is normal, and is principally caused from late June to August by the moisture-laden South-West Monsoon, on striking the Himalayan foothills of the north. The climatic condition of the Sangareddy district as a whole and MNR in particular is very suitable for a wide variety of flora and fauna to support its rich biodiversity. The faunal Diversity of MNR campus has been studied and documented as below:

Table: Common and Scientific names of birds and animals

S.No	Common Name	Scientific Name
1.	Common Myna	Acridotheres Tristis
2.	Bank Myna	Acridotheres Ginginianus
3.	House Sparrow	Passer Domesticus
4.	House Crow	Corvus Splendens
5.	Cuckoo	Cuculidae
6.	Snake	Naja Naja
7.	Yellow Wasp	Ropalidia Marginata
8.	Butter Fly	Danaus Genutia
9.	Common Woodshrike	Tephrodornis Pondicerianus
10.	Pied Myna	Gracupica Contra
11.	Red-Vented Bulbul	Pycnonotus Cafer
12.	Skylark	Aluda Gulgula
13.	Garden Tiger Moth	Arctia Caja
14.	Little Owl	Athene Brama
15.	Oleander Moth	Syntomeida Epilais
16.	Slender Skimmer	Orthetrum Sabina



Common Myna(AcridtheresTristis)



House Sparrow (PasserDomesticus)



House Crow(Corvus Splendens)



Cuckoo(Cuculidae)



Snake (Naja Naja)



Yellow Wasp (RopalidiaMarginata)



Butter Fly(Danaus Genutia)



Beetle insect on a hibiscusflower



Common Woodshrike
(Tephrodornis Pondicerianus)



Pied Myna (Gracupica Contra)



Red-Vented Bulbul(Pycnonotus Cafer)



Skylark (Aluda Gulgula)



Garden Tiger Moth(ArctiaCaja)



Little Owl (AtheneBrama)



Oleander Moth(SyntomeidaEpilais)



Slender Skimmer (OrthetrumSabina)

WEATHER DATA OF MNR: MNR Campus, Sangareddy (India Location: latitude 17° 37'21" N and longitude 78° 07'35" E)

In MNR Campus, the climate is warm and temperate. The summers are much rainier than the winters in MNR. The average annual temperature in MNR is 24.3 °C. and precipitation level is about 760 mm.

The driest month is generally November. There is 4 mm of precipitation in November. The greatest amount of precipitation occurs in July, with an average of 256 mm. With an average of 33.6 °C, June is the warmest month. The lowest average temperatures in the year occur in January, when it is around 12.3 °C. The precipitation varies 252 mm between the driest month and the wettest month. The variation in temperatures throughout the year is 20.3°C.

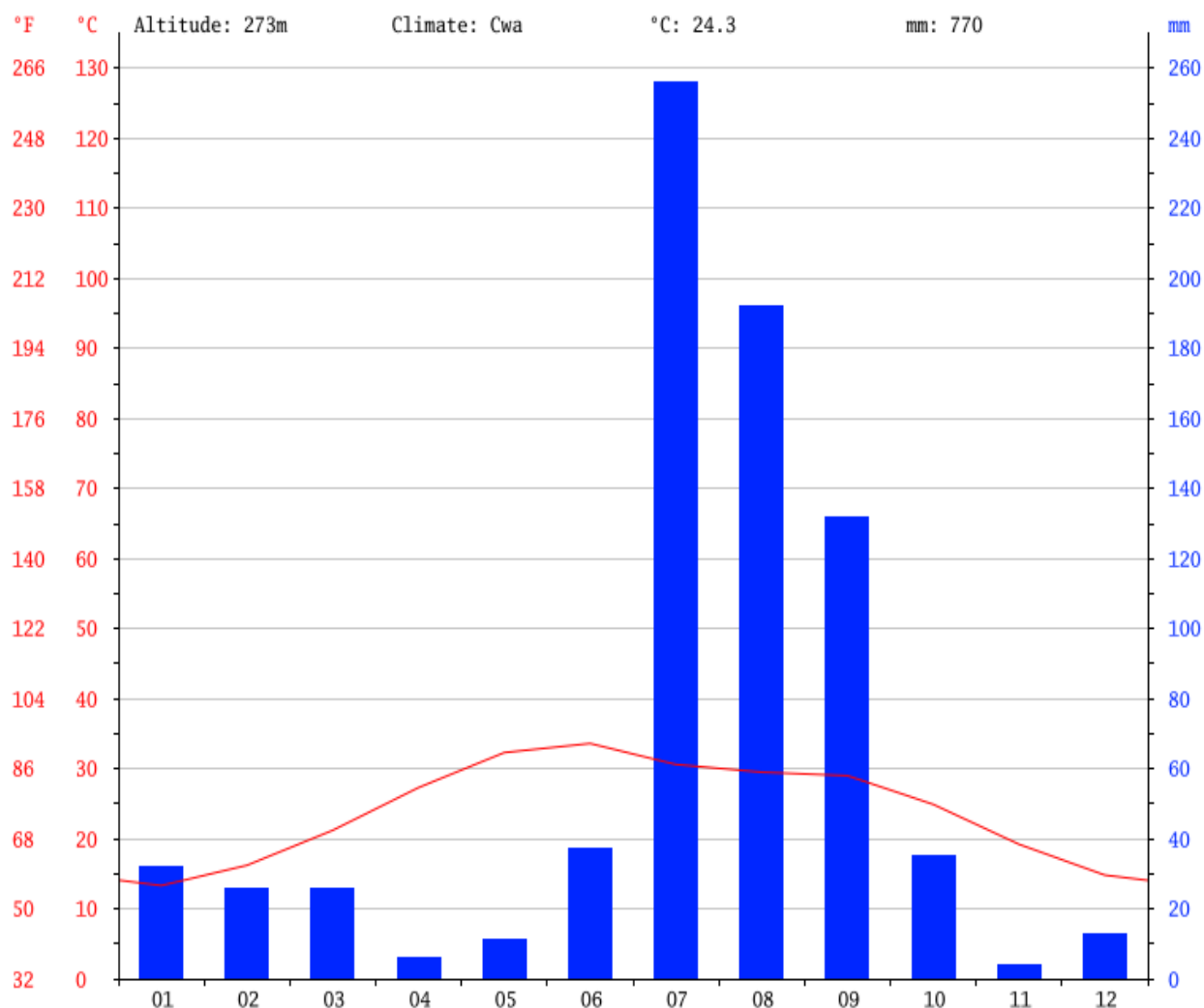
WEATHER DATA MONTH WISE MNR Campus

Temperature\Month	January	February	March	April	May	June	July	August	September	October	November	December
Avg. Temp. (°C)	13.3	16.2	21.2	27.3	32.3	33.6	30.6	29.5	29	24.9	19.2	14.8
Min. Temp (°C)	6.6	8.9	13.5	19	24.2	26.9	26.2	25.5	23.6	17.2	10.3	6.9
Max. Temp (°C)	20.1	23.6	29	35.7	40.4	40.4	35.1	33.6	34.5	32.7	28.2	22.8
Avg. Temp (°F)	55.9	61.2	70.2	81.1	90.1	92.5	87.1	85.1	84.2	76.8	66.6	58.6
Min. Temp (°F)	43.9	48.0	56.3	66.2	75.6	80.4	79.2	77.9	74.5	63.0	50.5	44.4
Max. Temp (°F)	68.2	74.5	84.2	96.3	104.7	104.7	95.2	92.5	94.1	90.9	82.8	73.0
Precipitation / Rainfall (mm)	32	26	26	6	11	37	256	192	132	35	4	13

The geographical co-ordinates of MNR are latitude 17° 37'21" N and longitude 78° 07'35" E. The campus has an average altitude of 1758.5 feet or 536 meters from the average sea level. The erstwhile land of MNR was very much feasible for flowers cultivation.

The climatic conditions bear a strong resemblance with the other cities in the southern part of India. The summers are usually hot and the winters are very cold. The summers are prevalent during the months of March to September with April and May being the hottest months. The winter is prevalent from the month of November till the month of March. There is onset of Monsoon in June and from mid of June till September one experiences the transitional weather.

CLIMATE GRAPH MONTH WISE MNR



AIR QUALITY IN MNR:

The ambient air quality data for MNR for the last one year shows that there are very less polluted particles in ambient air; AQI for SO₂ & NO_x parameters are within the range of Indian living standards, there are a number of factors responsible for this cleanliness, calmness and serenity in this area. Firstly, population which is most responsible for all the problems and hurdles in smooth living is lowest here of all the districts of TS. Secondly, in this area more trees have been planted as compared to other cities. Furthermore, no air polluting industry is established here not even in a radius of 5 Km of MNR area. The NH is also approximately 5 kilometres away from MNR, which might be responsible for heavy density traffic throughout the year and thus might be causing lot of vehicular emissions as well as a lot

of dust emissions due to the movement of vehicular traffic. Therefore, the ambient air quality of MNR Area falls in between moderate to rich quality state. The TS Pollution Control Board is pondering over the various possibilities to reduce the air pollution for the improvement of ambient air quality with respect to AQI is concerned. However, the annual average value of PM₁₀, SO₂, NO_x in the ambient air quality of campus falls in the range of 50-62 µg/m³, 3-5 µg/m³, 10-12 µg/m³ for most of the months, as such, the graded response action plan to eradicate the problem

AIR QUALITY DETERMINATION

Satisfactory air quality index in MNR, Sangareddy, India during January is as follows:

Parameter	Result (Range)
NO ₂	25.4 µg/m ³ , AQI 26 Very Good
NO	10.09 µg/m ³ , AQI 10 Good
O ₃	31.49 µg/m ³ , AQI 31 Good
PM _{2.5}	28.13 µg/m ³ , AQI 28 Good
PM ₁₀	77.2 µg/m ³ , AQI 79 S a t i s f a c t o r y
CO	35.0 µg/m ³ , AQI 18
Humidity	56.0 %
Barometric Pressure	1013 millibar or hPa
Wind Speed	10-15 m/s
Wind Direction	28.0013 degrees
Sun Rise	06:28 AM
Sun Set	05:56 PM
Moonrise	07:05 PM
Moonset	07:31 AM

WATER ANALYSIS REPORT OF MNR:

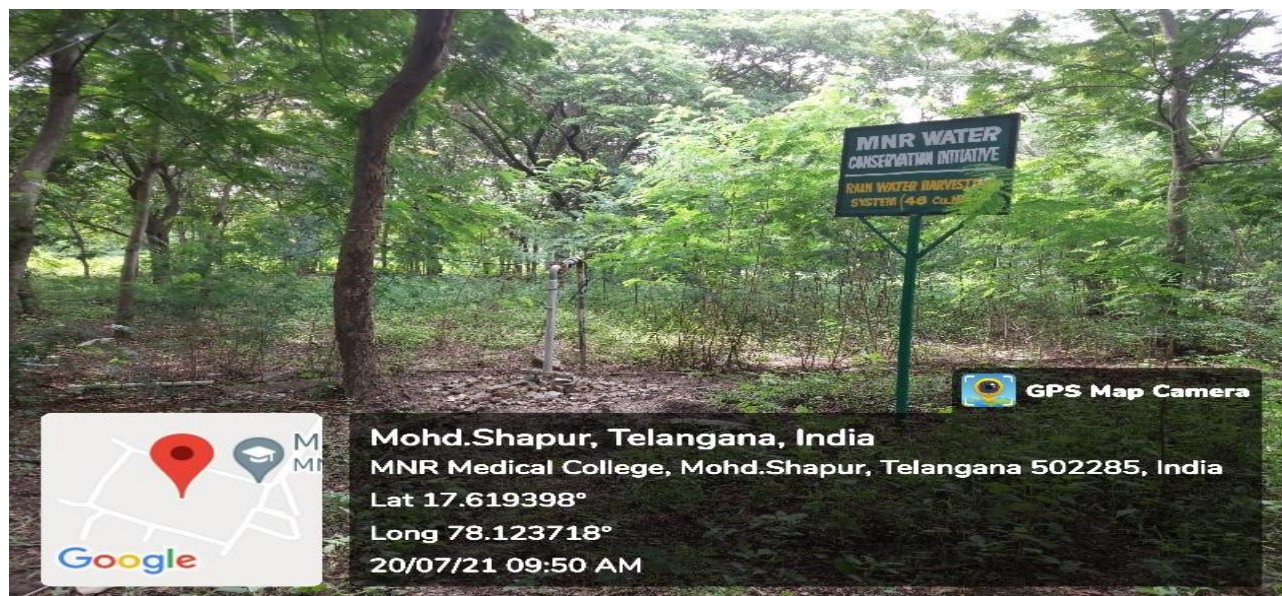
Water quality testing is important because it identifies contaminants and prevents water-borne diseases. Drinking or using contaminated water can result in severe illness or death. That is why it is important to ensure that drinking water is safe, clean and free from bacteria and disease.

The parameters for water quality are determined by the intended use. Work in the area of water quality tends to be focused on water that is treated for human consumption, or in the environment.

Drinking water indicators:

The following is a list of indicators often measured by situational category:

- Alkalinity
- Color of water
- pHvalue
- Taste and odor (geosmin, 2-Methylisoborneol (MIB),etc.)
- Dissolved metals and salts (sodium, chloride, potassium, calcium, manganese, magnesium)
- Microorganisms such as fecal coliform bacteria (*Escherichia coli*), *Cryptosporidium*, and *Giardia lamblia*; see Bacteriological wateranalysis
- Dissolved metals and metalloids (lead, mercury, arsenic,etc.)
- Dissolved organics: colored dissolved organic matter (CDOM), dissolved organic carbon (DOC)
- Heavy metals



NOISE LEVEL IN THE SURROUNDING OF MNR:

The human ear is constantly being assailed by man-made sounds from all sides, and there remain few places in populous areas where relative quiet prevails. There are two basic properties of sound:

- Loudness and
- Frequency.

Loudness is the strength of sensation of sound perceived by the individual. It is measured in terms of Decibels. Just audible sound is about 10 dB, a whisper about 20 dB, library place 30 dB, normal conversation about 35-60 dB, heavy street traffic 60-80 dB, boiler factories 120 dB, jet planes during take-off is about 150 dB, rocket engine about 180 dB. The loudest sound a person can stand without much discomfort is about 80 dB. Sounds beyond 80 dB can be safely regarded as Pollutant as it harms hearing system. The WHO has fixed 45 dB as the safe noise level for a city. For international standards a noise level up to 65 dB is considered tolerate. Loudness is also expressed in sones. One sone equals the loudness of 40 dB sound pressure at 1000 Hz. Frequency is defined as the number of vibration per second. It is denoted as Hertz(Hz).

MATERIALS, STUDY AREA & METHODS

Noise level meter or noise measuring app, Noise test pro (version: 1.0.2), was used to measure the noise level. Noise test pro detect of any noise, music or sound in your surroundings. It will tell you maximum, minimum and average decibel

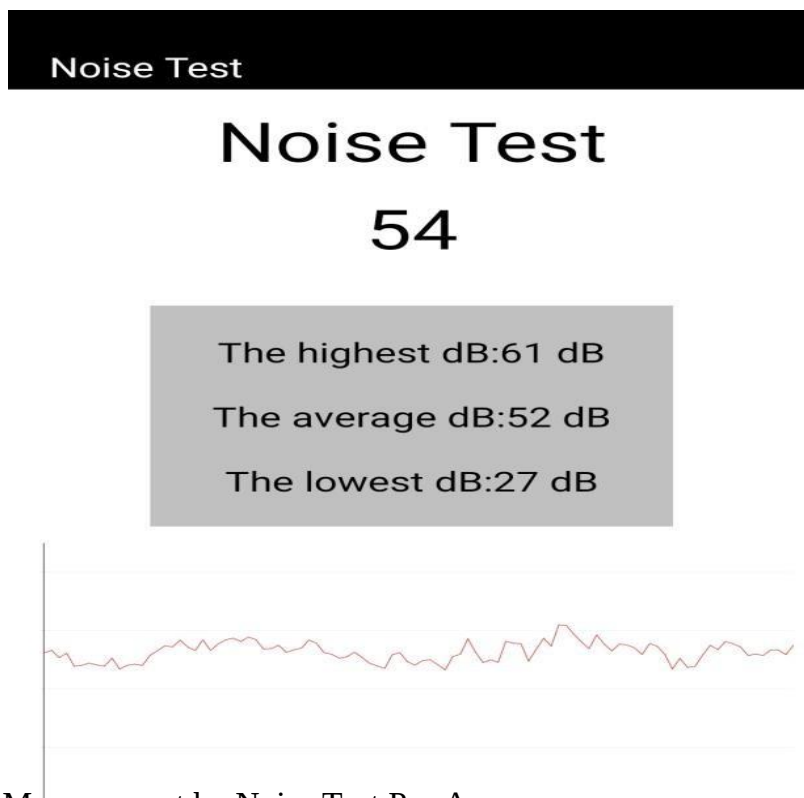


Figure: Noise Measurement by Noise Test Pro App

MEASUREMENT PROCEDURE

The noise level was recorded at the different Important Locations of MNR. At each spot, the measurements were taken for 60 seconds during day time (6 AM- 6 PM) and noted down the measurements. Screen shots of the measurements of noise were taken immediately on the app at the time of 60th second of each measurement.

RESULTS

The results of the experiments at different places have been tabulated in the following table:

Table 1: Measurements of Noise in and around MNR:

PLACE	MEASUREMENTS (Duration in Sec.)	MINIMUM (dBA)	Maximum (dBA)	AVERAGE (dBA)
Canteen	60	74	90	85
Library	60	51	85	65
HospitalArea	60	57	84	78
Hostels Lab	60	45	89	72
Admin Block Area	60	50	81	73
Principal Office	60	35	77	68
Auditorium	60	53	75	71
Ground 2	60	56	90	68
Generator Room	60	53	89	75
Gymnasium	60	68	82	76
College Front Gate	60	50.7	78.0	71.0
College Back Gate	60	54	75.9	73.5

Source: Data collected by Third Party Lab in the presence of GMCSPL Auditors. After the study, the measurements of noise have been recorded in and outside of MNR area:

Inside the Campus: 35-90 dBA,

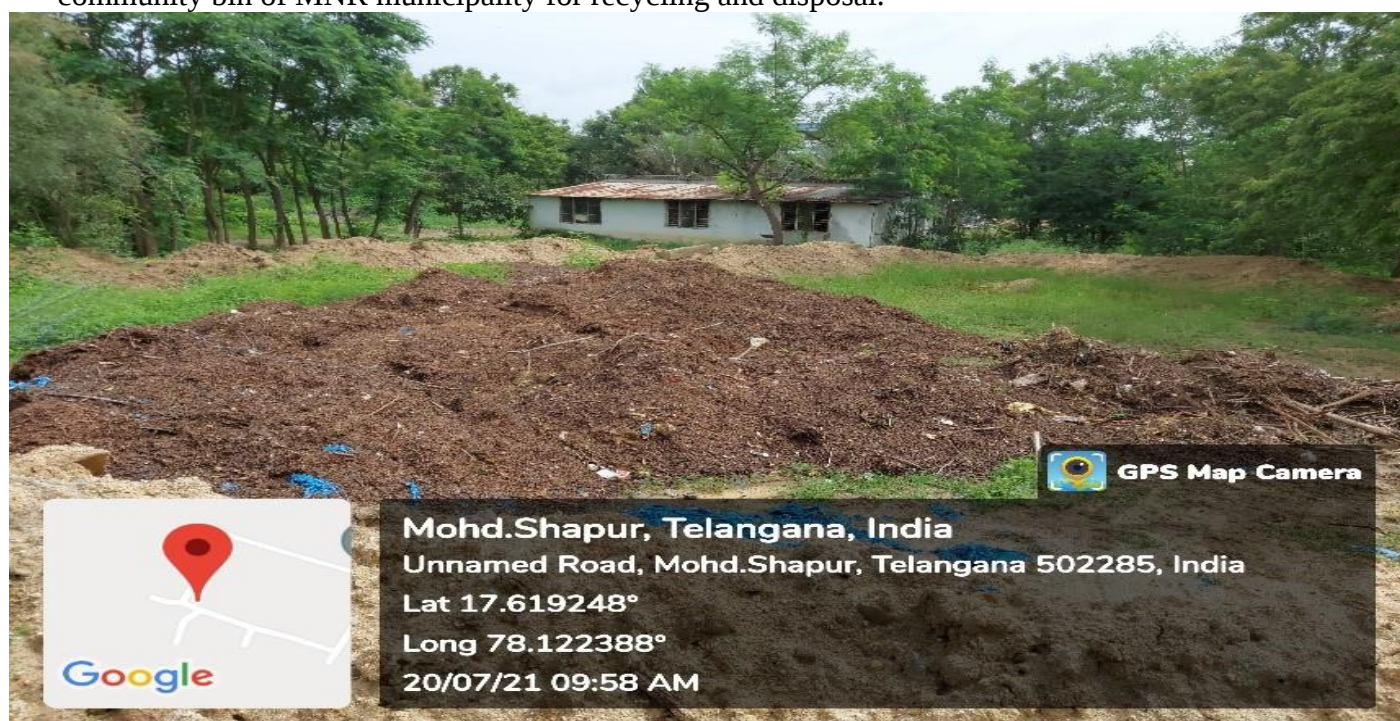
Outside the Campus: 54-93 dBA

WASTE DISPOSAL OF MNR:

Waste disposal are the activities and actions required to manage waste from its inception to its final disposal. This includes the collection, transport, treatment and disposal of waste, together with monitoring and regulation of the waste management process.

The waste from all around the college is separated daily as wet and dry waste in different bags which are disposed separately. Dry waste includes paper, cardboard, glass tin cans etc. on the other hand; wet waste refers to organic waste such as vegetable peds, left-over food etc. Separation of waste is essential as the amount of waste being generated today causes immense problem. The material was composted and evaluated as a fertilizing material. Disposal of these waste results in the production of good quality organic manure that can be used as soil amendments and source of plant nutrients.

With smart initiatives like “Think Green Campus Model”, waste management is helping colleges and universities to achieve a higher level of environmental performance. By reusing or recycling we are contributing to the conservation of natural resources, saving energy, helping to protect the environment, reducing landfill. We will also reduce our impact on the environment by minimizing the carbon emissions associated with both disposing of old products and obtaining new ones. MNR adopts environment friendly practices and takes necessary actions such as – energy conservation, waste recycling, carbon neutral etc. The biological reusable wastes are processed as organic manure for the plants available in the college campus and the other solid waste generated in the college campus is taken to the community bin of MNR municipality for recycling and disposal.



TRANSPORTATION AT MNR:

Being a largest campus in the region, MNR uses a fleet of buses for transportation of the students & staff from the around locations of Hyderabad. The college is dedicated to provide its students and staff all the comfort and convenience to help them to achieve their targets. There are the clear and certifiable environmental benefits to higher bus ridership. By utilizing bus transportation, we reduce our automobile use and thereby help to promote clean air. It can convey many more people in much less space than individual automobiles, which helps to keep traffic congestion lower, which in turn reduces air pollution from idling vehicles, and helps riders avoid the stress that comes from daily driving in highly congested areas. By moving people more efficiently, bus transit produces significantly less air pollution per passenger mile than a standard car carrying a single driver. Buses emit approximate 20% less carbon monoxide, 10% as much hydrocarbons, and 75% as much nitrogen oxides per passenger mile as an automobile with a single occupant. Also with in campus no diesel 4 wheeler vehicles are allowed. MNR organized battery operated 2 and 4 wheelers vehicles with in the Camp





ELECTRICAL POWER CONSUMPTION AT MNR:

MNR, being one of the largest campus of Hyderabad, consumes on an average 25000 (units) per month of electricity. The authority keeps on replacing the old filament bulbs, CFL bulbs and tube lights by low energy consuming LED bulbs and LED tubes and bulky high-power consuming fans by energy efficient fans in order to keep the electricity consumption of the college as low as possible.

In addition to making Environmental Studies a very vital subject in our syllabus, MNR has gone a step further by putting that theory into practice. The college has installed three sets of solar panels, on the roof of block. MNR with the installation of 20 KW solar rooftop plant in collaboration with External agency was able to offset 20% of its energy usage from the state grid thus moving towards a more reliable and greener option and reducing its carbon footprint.



EXPENDITURE ON GREEN INITIATIVES DURING THE LAST THREE YEARS:

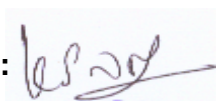
Financial Year	Tree plantation (Amount in Rs)	Gardening & lawn Work (Tractor running & Maintenance) Rs.	Sewerage Treatment Plant Rs.	Purchase of LEDs Rs.	Total Rs.
2021 – 22(R)	31236	101245	20824		153305
2020 – 21	67478	137482	20645	712628.6	938233.62
2019 – 20	58424	131547	20349	847871.4	1058191.4

Audit Team	Team Leader	K S N Prasad
	Auditor[s]	Ch. Rama Rao, P.Yadgiri & K.V.Murthy
Audit Dates	11.01.2022 and 12.01.2022	

Name of the Lead Auditors and Sign

Name: Mr.K.S.N.Prasad

Signature:



Date: 12.01.22





GLOBAL MANAGEMENT CERTIFICATION SERVICES PRIVATE LIMITED

Certification Audit Report

ISO 14001:2015 and ISO 50001:2018

For

MNR Dental College & Hospital

MNR Nagar, Fasalwadi, Sangareddy-502294, Telangana State, India

Audit Ref No. GMCSPL/E & EN MS -130

Disclaimer: - The Auditing is based on a sampling process of the available information and consequently there is an element of uncertainty which may be reflected in the Audit findings. Those relying or acting upon the Audit results and conclusions to be aware of this uncertainty. The Audit recommendations are subject to an independent review, prior to decision.

This report was presented to and accepted by:	
Name:	Dr. Sujatha Gopal
Job title:	Principal

1. Audit details:

Management Member(s)	Sri.M.Ravi Varma – Vice Chairman, Dr Sujatha Gopal – Principal Sri A.Narayana Raju- Asst. Director (Admin)		
Audit Criteria [Standard]	ISO 14001:2015 & ISO 50001:2018	Exclusion	NIL
Audit Objectives	To Verify if the organization’s compliance and effective maintenance of E&OHS and EnMS in accordance with ISO 14001:2015 and ISO 50001:2018 and to make decision on Certification.		
Audit Scope [confirmed]	Provision of Educational Services.		
Functional Units/Processes Audited	Medical Departments, Administration, Examination, Hospital and Hostels		
Audit Site[s]	MNR Nagar, Fasalwadi, Sangareddy, Telangana, India.		
Audit Team	Team Leader	K S N Prasad	
	Auditor[s]	Ch. Rama Rao, P.Yadgiri & K.V.Murthy	
Audit Dates	08.01.2022 and 10.01.2022		

2. Audit Trials

Description	Objective Evidence
Brief Profile of the organization Including main products/ services and customers	MNR Dental College is one of the prestigious institutions of MNR Educational Trust, Sangareddy, Telangana State. It was founded in 2006 with an undergraduate course in Dentistry and in 2012 with post graduate courses for 8 dental specialties, having an annual intake of 100 students and 24 post graduates. It is affiliated with the KNR University of Health Sciences, Warangal, Telangana State, and approved by the Dental Council of India, New Delhi and the Ministry of Health & Family Welfare, Govt. Of India as per the notification No.V.12017/33/2004-DE, dated 6 April 2011. The college received NAAC accreditation in the year 2017. The genesis of MNR Dental College lies in our conviction of creating an institution of excellence committed to Dental education, treatments, and research. MNR's BDS and MDS curriculum is planned according to the DCI curricula. Our education system is based on the student centric methods with all the learning facilities to inculcate scientific aptitude amongst the students through excellent clinical as well as simulation-based training using ICT enabled classrooms, departments and also in collaboration with our 760-bedded Medical College & Hospital and College of Pharmacy. The faculty strives hard for the overall development of tomorrow's upcoming professionals being supportive and responsive to student needs and to encourage the 'student voice'. The modern Dental hospital features state-of-the-art dental care facilities with highly experienced doctors and efficient staff. The Dental Hospital is equipped with specialized equipment like CBCT, endodontic magnifying loupes, LASERS in pre-clinical and clinical departments. The Hospital has Conscious Sedation as well as General Anesthesia facilities for treating children; special care needs patients as well as trauma cases. The college provides Post graduate course for Oral Medicine and Radiology, Oral Surgery, Orthodontics, Periodontics, Pedodontics, Prosthodontics, Conservative and Endodontics, Oral pathology & microbiology. The department of public health dentistry provides Awareness and free dental

	services to the nearby communities. The hospital also has fully equipped mobile dental van through which the diverse population are reached. The institute aims to create professionals with innovative approaches and new strategies at their hands. Nurtured with the special care and concern of the faculty members, MNR is marching towards the forefront in the field of Dentistry and research.
Organizational context	External issues related to E & EN MS & EnMS identified are: Competition, Technology, Culture, Legal, society, hospitals etc. Internal Issues identified are: Knowledge, Employee Base, performance of the students, performance of Faculty, strategic direction etc.
Interested parties needs and expectations	Interested parties include: Society/Neighbors/NGOs/Media/Employees/workers/Trade unions Govt.: Legal compliance to all applicable statutory requirements. Management: Improving Environmental Performances.
E & EnMS Management Scope and Boundaries	Provision of Educational Services.
E & En MS Management System establishment	MNR has established, implemented and maintained E & EN MS in accordance with the requirements of International Standard. Documentation consists of Manuals, Procedures, policies, and Formats Verified and found in order
Leadership and commitment	Vision, Mission, objectives are set for each department and institute is monitoring same through Internal quality audit process.
Risks and Opportunities	Risks and Opportunities are defined for each functional areas, same were verified and found in order
Environmental Aspect & Impact Assessment	Environmental Impact Assessment was documented for all the processes. Some of the areas like canteen and solid waste handling at hostels were not captured.
Actions to address risks and opportunities	The Risks and Opportunities Identified are inputs for planning actions and for establishing the E&OHS Objectives and the same is described in Aspect impact assessment.
E & En MS Objectives and action plans	E & En MS objectives for the present year - Reduce water consumption by 5% over last year. - Reduction in power consumption by 15 % over last year. - Reduction in paper consumption by 15% over last year. - Recycle and reuse the water
Legal and other requirements and Evaluation of compliance	Pollution Control Acts, Rules and Notification issued by TSPCB. Liaison with Regional Office of PCB and MoEF, as applicable. Reference to Environmental Legislation Updates published by various bodies Medical Council guidelines
Resources	All the resources needed for the implementation, maintenance of E & En MS is provided. - Annual financial budget for the year 2021: 2.5 Lacks
Competency	Competence of each and every role in the organization is determined by their Education, training, Qualification and Experience. - Verified competency matrix for all the Designations
Awareness	Awareness among the campus towards reuse, recycle of natural resources was found good among faculty and students.
Operational planning and control	MNR developed procedures for various activities. Handling of Hazardous Waste it E & En MS Handling of Non-Hazardous Waste it E & En MS Operational Controls on E & En MS like: Management of Safety Committee / Management of First Aids /Management of PPE . General Operational Controls includes: Emergency Procedure Work Instructions/

	OCP Display at Various Operations, Process, Machines Earth Pit testing & Identification Environment Related Slogans & posters Display at various place for better Performance & Awareness. Reduction in water, Air, Noise & Energy consumption, reduction in number of incidents & ensuring safe Environment.
Emergency Preparedness and Response	MNR adopts procedure for Emergency preparedness and response for all environmental emergency situations and a rescue team is available. Emergency preparedness plan includes natural, technical, and man-made events that occur inside and outside normal working hours. Few of the Emergency situations are: Emergency control center includes: On Site Emergency Plan, Site Map, List of Site Areas, Fire Extinguishers, first aid boxes, and emergency power supply to the main switchboard, alarm systems, and exit signs/ lights, Important Telephone Numbers, Communication Facility ,an evacuation route map and a safe assembly point. 2 Scenarios were taken for Mock Drill one was Electrical Fire and one was contamination of Drinking water. Plans for responding to that particular emergency situation that is contamination of drinking water was not clear.
Performance evaluation & Evaluation of Compliance	MNR established a process for monitoring and measuring of E & En MS performance. All the legal requirements documented information kept up to date, verified and found ok. Department level documents are made available for the demonstration of performance
Internal Audits	MNR has planned, established, implemented and maintained an audit program. Audit criteria and scope for each audit is defined. Internal audits are being conducted once in semester. Auditors are selected such that there is no impartiality in the audit process. Number of nonconformities identified during internal audit system were well taken with both correction and corrective action.
Management Review	MRM is planned once in 6 months. Regular reviews at department and college level are organizing by VC/Director/HOD and minutes of same were verified and found in order.
Incident , Nonconformity and corrective action	Incident register maintained, with correction and corrective actions taken. No environmental incidents happened till now in the campus
Continual improvement	Continual Improvement is done by promoting the participation of students and employees in implementing E & En MS Management system

Overall Recommendations and conclusion:

Recommendations: Environmental awareness among staff may be improved, Awareness on the ISO 14001 and ISO 50001 standard with supporting staff to be planned. Air Quality Monitoring records to be maintained for each season wise
Conclusions: System is compliance with the requirements of ISO 14001:2015 and ISO 50001:2018. The team leader in association with team members recommended for issuance of Certification in accordance with ISO 14001:2015 & ISO 50001:2018.

Name of the Lead Auditors and Sign

Name: Mr.K.S.N.Prasad

Signature:



Date: 10.01.22

