



ENVIRONMENTAL AUDIT REPORT - 2022

Auditee

*Krishna Institute of Medical Sciences,
"Deemed To Be University", Karad
Malkapur-415539, Tal: Karad, Dist: Satara,
Maharashtra*


REGISTRAR
Krishna Vishwa Vidyapeeth
(Deemed to be University),
Karad

Auditor

*Green Scientific Development (I) Pvt. Ltd.
4/A Wing, Bldg. No. 23, Tulsi C.H.S. Ltd,
Subhash Nagar, Chembur, Mumbai 400071
Mobile 9820239183*

10th October, 2022

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1.0 Environmental Audit Completion Certificate

Name of the Installation **Krishna Institute of Medical Sciences
"Deemed To Be University", Karad,
Satara – 415539, Maharashtra.**

Details of Facility Audited **All the facilities under KIMSDU at Karad**

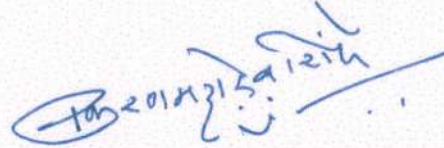
Date of Environment Audit **10th October 2022**

Name of Lead Auditor **Mr. Kiran Shinde - EMS Lead Auditor**

Name of Co-Auditor **Mr. Mahesh Chhatre - Environment Expert**

Name of Auditing Company **Green Scientific Development (I) Pvt. Ltd.
4/A Wing, Bldg No. 23, Tulsi C.H.S. Ltd,
Subhash Nagar, Chembur, Mumbai – 400071**

Signature of Auditor :



Lead Auditor :

Mr. Kiran Shinde

Certification No :

ISO 14001:2015 _ 35142852 02**Delegate No 168345, Dated 15.04.2019****(Refer Annexure II)**

Certification By :

TUV NORD CERT GmbH

Stamp of Company :




REGISTRAR
Krishna Vishwa Vidyapeeth
(Deemed to be University),
Karad

2.0 Environmental Audit Committee & Audit Program

Environmental Audit Date : 10th October 2022

2.1 ENVIRONMENTAL AUDIT COMMITTEE

Table 1.0: List of the Audit Committee

Auditors - External Members			
1	Mr. Kiran Shinde	Lead Auditor	Lead Auditor
2	Mr. Mahesh Chhatre	Co-Auditor	Environment Expert
Auditee - In-house Members			
1	Mr. S. A. Mashalkar	Chair Person	Assistant Registrar - Estate & Security
2	Mr. Ganesh Patole	Member	Environmental Supervisor
3	Mr. S. S. Gaikwad	Member	Civil Engineer
4	Mr. Y. G. Kulkarni	Member	Electrical Engineer
5	Mr. D. S. Kashid	Member	Civil Supervisor
6	Mr. S. Y. Kirdak	Member	HOD - Garden Dept.

2.2 ENVIRONMENTAL AUDIT SCHEDULE

Table 2.0: Audit Schedule with Time and Location

Heads	From	To	Location
Opening Meeting	9.15	9.45	With Management Team & Auditee
Site Visit	10.00	12.30	Departments
Lunch Hr	12.30	13.30	In House
Site Visit	13.30	17.30	Campus and Utilities
Closing Meeting	17.30	18.30	With Management Team & Auditee

3.0 INTRODUCTION

Krishna Institute of Medical Sciences "Deemed To Be University", Karad is located in Western Maharashtra, India against the background of mountains and valleys. The green, eco-friendly campus is spread over 57 acres and is well connected by rail, road & air.

The University is accredited by NAAC 'A+' grade and has been conferred with ISO 9001,14001 certification. The constituent faculties of the University include Medical, Dental, Physiotherapy, Nursing, and allied sciences offering undergraduate and postgraduate courses in the respective faculties. It also runs Ph.D. programs and Post-Doctoral Fellowships in various subjects.

The medical college is about 35 years old and is recognized by the National Medical Commission, Medical Council of Malaysia and is listed in the WHO's World Directory of Medical Schools. MBBS and postgraduate degree/diploma courses in clinical and basic sciences in 17 disciplines are recognized by National Medical Commission. It also admits the international students from all over the globe for undergraduate courses.

Krishna Institute of Medical Sciences was established in 1984. The college enjoys an enviable reputation among Indian medical schools. Adaption to new technologies, innovative teaching methods, dedicated community service and an experienced faculty have contributed to its long tradition of excellence.

The School of Dental Sciences was started with the approval of the Dental Council of India in the year 2006. A massive state-of-art infrastructure to support 100 undergraduate and 23 postgraduate admissions with the installation of 283 electrically operated chairs, laboratories, instruments, materials and the appointment of an experienced faculty has seen it to grow into an institution of repute. The School aims to address the dental care needs of the community while providing the best dental education and comprehensive hands-on training to its students. As a social responsibility it also carries out the oral health awareness programs and diagnostic camps in surrounding villages.

Krishna Institute of Nursing Science was established in the year 1983. Nursing as a profession and a discipline utilizes knowledge derived from arts, sciences (physical, biological and behavioral), humanities and human experience. Nursing science incorporates clinical competence, critical thinking, communication, teaching learning, professionalism, and caring and cultural competency. Nurses collaborate with other health disciplines to solve individual and community health problems.

Krishna College of Physiotherapy was established in the year 2002. Physiotherapy is a science which aims to accelerate a patient's recovery after illness or injury and seeks to restore and maintain physical function. It has a role to play in all age groups and in all branches of medicine. During the 4 years course students undergo instruction in basic body structures and organs, their function, disease, recovery and rehabilitation encompassing the subjects of anatomy, physiology, biochemistry, pathology, microbiology, pharmacology, medicine, surgery, orthopedics, gynecology, and sports medicine.

They are introduced to various methods of testing, mobilization techniques, electromyography and neuromuscular facilitation. The students also learn about various treatment methods of hydrotherapy, electrotherapy, stimulators, UV radiation, short wave diathermy, laser therapy, wax bath etc, and different technics like bobath, mckenzie and Mulligan.

The Krishna Institute of Allied Sciences was established in 2007 with Two Post graduate courses in Microbiology, Biotechnology with the Inspiration from First Chancellor of Krishna Institute of Medical Sciences "Deemed to be University", Karad, Late Shri. Jaywantraoji Bhosale and with the Keen Interest of First Vice Chancellor Dr. Suresh Bhosale.

Krishna Institute of Pharmacy was established in the year 2017. The latest inclusion in the University is Krishna Institute of Pharmacy. It was started in year 2017 with the intake of 60 students. Within 2 years the intake capacity is increased to 100 per year. Advanced laboratories, classrooms and enthusiastic faculty are the main pillars of the institute.

The teaching hospital is 1125 bedded multispecialty tertiary care hospital with facilities for Critical Care, Endoscopic Surgeries, Dialysis, Cardiology, Cardio-vascular-thoracic-surgery, Oncology, Urology, Neurosurgery, Plastic surgery, Oral and Maxillofacial Surgery and a recognized Renal Transplant Unit. It has fully equipped major operation theatres, minor theatres, labour rooms, blood bank accredited by NABH, radio-diagnosis and radiotherapy, computerized medical records, counselling services etc. There are separate intensive care units like Medical, Surgical, Coronary care, Pediatric, Neonatal (accredited by Neonatology Forum of India), Respiratory and Obstetrics. The neonatal ICU is recognized by Neonatology Forum of India. The radio-diagnosis department has facilities for MRI, color doppler, mammography, DSA etc. It also actively participates in national healthcare programs and various extensions and outreach community programs initiated by the Institute.

The University has been ranked 5th amongst the cleanest higher Educational Institutions in the category of 'Technical Institutions - Universities (Residential)' in the year 2018. The University has also received certificate for 'Maintaining, Promoting and Encouraging the Culture of Swachhta in Higher Education Institutions in the country'.

Krishna Institute of Medical Sciences "Deemed to be University", Karad has awarded by International Green University Award 2022 in Green School Conference 2022 held at SUNY Maritime College, New York on 24th September, 2022.

Krishna Institute of Medical Sciences "Deemed to be University", Karad has received Gold Rating in IGBC Green Building Standard as per Green Campus Rating System from Indian Green Building Council for 5 Years from the Date of Certification on 07th October, 2022.

Krishna Hospital and Medical Research Centre, Karad had a modest beginning with 200 beds hospital in one of the remotest areas in southern Maharashtra in the year 1982. Over the span of last 3 and half decades the hospital has grown to an 1125 beds multi-specialty hospital. The hospital was accredited by NABH in the year 2016 and then reaccredited in the year 2022. The NABH accreditation has ensured that protocols are streamlined and as per internationally accepted best practices. Krishna hospital is committed to provide standard treatments and quality care. Quality care involves

specialized techniques, instrumentation, infrastructure and knowledgeable and skilled professionals. In our country where primary health care still remains a priority, our aim is to bring quality health care within reach of people living in villages.

3.1 ABOUT HOSPITAL

Krishna Hospital is an institute that resonates the coming of age of medical services in India. May it be a day to day regular ailment or a concern that requires specialty services and care it can all be found here. A team of expert doctors with decades of experiences highly trained nursing and ancillary staff, latest equipment and machines handled by skilled technical staff and a strong backbone of support services has helped elevate Krishna Hospital to a premier health care institute. The hospital with a capacity of 1125 beds, 32 wards, 8 different ICUs has added a number of various capabilities over the years, however has always stayed true to its DNA of "affordable, quality medical services for all".

3.1.1 Clinical Departments

- General Medicine
- General Surgery
- Transplant services
- Keratoplasty
- Anesthesiology
- Obstetrics & Gynecology
- Pediatrics
- Orthopedics
- Total Hip Replacement
- Total Knee Replacement
- Orthoscopy
- Medical Imaging Services
- Radiotherapy
- Medical oncology
- ENT

- Ophthalmology
- Psychiatry
- Pulmonology
- Dermatology
- Endoscopy
- Laparoscopy

3.1.2 Super Specialty Services

- Neurosurgery
- Neurology
- Plastic and Reconstructive Surgery
- Pediatric Surgery
- Genito-Urinary Surgery
- Surgical Oncology
- Nephrology
- Cardiology
- Cardio Vascular and Thoracic Surgery
- Radiotherapy
- Medical Oncology

3.1.3 Clinical Information

The hospital has state of the art facilities with 100 super specialty beds for Neurosurgery, Neurology, Plastic and Reconstructive surgery, Pediatric surgery, Genito-Urinary Surgery, Surgical Oncology, Nephrology, Cardiology and Cardio Vascular Thoracic Surgery. Specialized ICUs are available namely Surgical ICU, Medical ICU, High Dependency Unit, Coronary Care ICU, CVTS ICU, Neonatal ICU, Pediatric ICU, Maternal ICU and Cardiology ICU etc. which occupy different sections with a total bed capacity of 150 beds. Critical Care is a separate unit at the hospital with 24*7 availability of on-location intensives. The Emergency room is well equipped and well staff with 30 beds and a separate ICU with 6 beds. The hospital also has 40

private rooms which include 20 deluxe rooms and 20 super deluxe and suites to accommodate patients with various needs and requirements.

There are 13 ultra-modern operation theatres with laminar airflow and 4 minor operation theatres for OPD patients. Krishna hospital has been one of the pioneers in implementing quality culture in a teaching hospital with NABH accredited blood bank which has component facility and plasmapheresis unit. A well-equipped NICU with 20 beds accredited by NNFI.

3.1.4 Facility Departments

- Emergency services (Casualty)
- Admission office
- OPD services
- Blood bank
- Components facility
- Plasmapheresis
- Diagnostic Services
- Inpatient services
- Intensive care units
- Operation theatres
- Radio-diagnosis
- Specialty services
- State of the art technology
- Leading the way
- Ancillary therapy
- Charity schemes
- National and international collaborations
- Service collaborations
- Outreach activities

3.1.5 Emergency Services (Casualty)

The Casualty has 30 beds with central oxygen, suction and other resuscitative measures. 6 ICU beds in the casualty are provided for immediate medical care and after stabilization patients are transferred to respective inpatient wards. Others are discharged after preliminary treatment with instructions to attend follow-up in the OPD.

3.1.6 Admission Office

The admission office provides courteous service to all patients and necessary documents for registration. The patient data is collected on customized software "Lifeline" which also helps to analyze the performance of departments. Various government run schemes for patients are implemented through this office.

3.1.7 Out Patient Services

The outpatient department is located at the entrance of the hospital complex. Clinical examination rooms for consultants of various disciplines are provided with central facilities which includes rooms for ECG, USG, treadmill, applying and cutting plaster, injections and vaccines, blood collection and counselling. There are four minor operation theatres in the OPD complex. The Registration counter is computerized and linked to central medical records. All OPDs have space for teaching.

3.1.8 Blood bank

NABH accredited blood bank at Krishna Hospital offers components facility.

3.1.9 Diagnostics

Diagnostics is an important part of medicine and Krishna Hospital has always ensured due care toward upgradation and advancements of both clinical and diagnostics aspect of patient care. The Central Clinical Laboratory and Imaging Services with CT, MRI, Digital X-Ray and imaging intensifier, Mammography, Sonography and Colour Doppler

services are provided with the assistance of latest breakthrough in technology. It also provides services like EEG, EMG, and Bera.

3.1.10 In Patient Services

The wards are well lighted and ventilated with special attention to prevent nosocomial infections as they contribute to loss of resources. Guidelines on safe practices, waste disposal and sanitation are introduced with a view of improving general sanitation and hygiene.

3.1.11 Intensive Care Units

Critical care is now recognized as a specialty. Traditional intensive care along branches of medicine, surgery, paediatrics are slowly transforming into a more integrated pattern with advancing knowledge, procedures, equipment and newer methods of treatment. However the extension of intensive care to further specialization in Coronary care (CCU), Respiratory care (RICU), Neonatal care (NICU), Burns etc. will continue and further expand to deal with any emergency. Intensive Care Units have advanced equipment, life support systems, professionals with special skills, standardized protocols resulting in improved clinical outcomes.

The Neonatal ICU at Krishna Hospital is recognized by the Neonatal Forum of India at IIB level. This 20 bedded ICU handles basic and specialty new born care.

3.1.12 ICU Details

<u>Sr.</u>	<u>Type</u>	<u>Beds</u>
1.	Emergency Department	30
2.	High Dependent Unit	15
3.	Medical ICU	20
4.	Surgical ICU	16
5.	Neonatal ICU	20
6.	Ob/G ICU	04

<u>Sr.</u>	<u>Type</u>	<u>Beds</u>
7.	Paediatric ICU	04
8.	Cath lab ICU	08
9.	CVTS ICU	12
10.	Burns ICU	06
11.	Post Operation Recovery	15
	Total	150

3.1.13 Operation Theatres

The OT complex consists including 13 state-of-art modular operation theatres. The complex is set up in accordance with NABH guidelines having central oxygen, nitrous and suction supplies, modern anaesthesia work stations and an attached dedicated Central Sterile Supplies Department (CSSD) with unidirectional flow. All types of general surgical, orthopaedic, ophthalmology, ENT, obstetrics & gynaecology procedures are conducted routinely. Super-specialty procedures which includes Neuro-surgery; Plastic and reconstructive surgery, Genito-urinary surgery, Paediatric surgery, Cardio-Vascular and Thoracic surgery, Cardiac procedures, Transplant surgeries etc. are also carried out.

3.1.14 Super Specialty Services

In its endeavour to provide quality medical care at reasonable cost KIMSDU has made significant progress in various super specialty services. Renowned experts with years of experience in their respective fields, dedicated pre and post-surgery care with efficient and well trained staff sets KIMSDU apart from other institutes offering similar services. KIMSDU believes in not adding years to life but also quality to life. Below are the different super specialty expertise on offer at Krishna Hospital.

- | | |
|--|----------------------|
| - Neurosurgery | - Neurology |
| - Plastic and Reconstructive Surgery | - Paediatric Surgery |
| - Genito-Urinary Surgery | - Surgical Oncology |
| - Nephrology | - Cardiology |
| - Cardio Vascular and Thoracic Surgery | - Radiotherapy |
| - Medical Oncology | |

3.1.15 State of the Art Technology

The hospital has been at the forefront on implementing innovations in the field of patient care and teaching. In this endeavour the hospital has state of the art Cath-lab, CTVS unit, Cancer Care Centre with Linear Accelerator and separate facility for Chemotherapy as well as a modern Dialysis unit.

3.2 OBJECTIVES OF STUDY

The main objective of the environmental audit is to know the existing environmental status & Management of same at institute and hospital.

The various objectives are as follows;

- To Identify & Quantify and Describe the framework of environmental aspects in compliance with applicable standards, regulations and Management policies.
- To introduce and make aware all the stake holders regarding institutional efforts about Environment,
- To analysing the pattern and extent of resource use on the campus and its management w. r. t. sustainable development.

3.3 METHODOLOGY

In order to perform the successful Environmental audit, the following methodology is followed;

- Preparation Checklist and collection of documentation
- Physical inspection at various environmental related facilities of the campus
- To observation the conditions, take spot interviews, Collect samples and appraise the documentation
- Data analysis, measurements and recommendations.

The audit covers following ASPECTS;

- Water and Waste Water Environment
- Air Environment
- Solid and Land Environment
- Energy Environment
- Safety and Health Environment
- Social Environment

4.0 Environmental Aspects

Different environmental aspects are handled efficiently in the campus area. The data of all the environmental aspects are well maintained in the campus.

The details are as follows:

4.1 PRESENT INFRASTRUCTURE & AREA

The institute has been spread over area of 57 acres and the area distribution is as below;

Table 3.0: Area Statement for the Location

Sr. No.	Details	Area (In SQ. Mt)
1	University Campus Area	233757
2	Tree cover of the campus	89784
3	Buildings	133364
4	Area of Utility	9891
5	Open Area	131355
6	Parking Area	2288

- The layout of the campus showing all details is enclosed as **Annexure I**
- The facility is well planned as per standard architectural norms providing adequate wide roads, open spaces, green spaces and adequate parking facility.

Table 4.0: Parking Allotment with Type of Parking

Parking Type	In Nos
2 wheeler	1035
4 wheeler	110
Bi cycle	70

Photograph 1: Parking Facility Provided by KIMSDU



The institute has state of art infrastructure with special facilities like;

- 100 super specialty beds
- 40 Private rooms including
 - 20 Deluxe rooms,
 - 14 super deluxe rooms,
 - 4 suites
 - 2 master suites
- 13 ultra-modern operation theatres
- Minor operation theatres
- Central Clinical Laboratory
- CT, MRI, Digital - X-Ray and imaging intensifier, Mammography.
- Sonography and Colour Doppler services.
- EEG, EMG, and Bera
- Eye Bank with Keratoplasty
- Central Research Lab
- Clinical and Demo rooms
- Psychology counsellors and Medical Social Workers
- Clinical Psychology
- Child Psychology
- Speech Therapy
- Psycho-therapy
- Physiotherapy
- Prosthetics and Orthotics
- Blood bank
- Components facility
- 24 * 7 Pharmacy
- Computerized Medical Records
- Department Offices and Library

4.2 WATER ENVIRONMENT

Water Pollution has assumed alarming proportions. It has emerged as one of the most serious environmental threats in India. Both domestic and industrial reasons are contributing to this problem. Excessive use of soap, soda, bleaching powder, detergent or acids at home and chemicals in the industries are primarily responsible for water pollution. Urban sewage and industrial waste flows into the water sources without treatment. Despite all efforts of the Government in cities and towns, only 10 per cent of the total waste water is treated and rest of polluted material directly flows into ponds, rivers and ocean.

Polluted water leads to the worst effect on human health. According to the World Health Organization (WHO), every year due to contaminated water 50 million persons become the victims of death. About 360 persons per one lakh die in India and over 50 per cent patients getting admitted in hospitals are the patients of water borne diseases. The situation in underdeveloped countries is even worse where over 80 per cent of the patients are suffering from the diseases born out of polluted water.

Microbes, toxins and water containing unnecessary amounts of salts give rise to many diseases. Around the globe, more than 80% of water borne diseases are due contaminated water. As per an estimate, almost 2.5 million people in over 34000 villages of India are suffering from cholera. Millions of tribal villagers in Rajasthan are suffering from various diseases due to drinking dirty water from the ponds. Contaminated water contains a variety of disease-causing bacteria that results in several types of ailment.

According to the scientists, a large number of diseases in India can be attributed to drinking of sewage mixed water. Various diseases like polio, cholera, patches, jaundice, fever, viral fever etc are spread through polluted water. Polluted water contains lead which when consumed by the humans while drinking water leads to producing various ailments such as joint pain, kidney disease and heart disease in them.

The waterborne diseases are infectious which spread primarily from polluted water. Hepatitis, cholera, dysentery and typhoid are the common waterborne diseases, which affect the majority of tropical area. Apart from diarrhea, and breathing problems, drinking polluted water causes skin diseases. If the polluted water gets stagnated, it becomes a breeding ground for mosquito and many other parasites which are very common in tropical areas. Children often get sick if they drink polluted water and sometimes they even die due to intensity of the diseases. As per an estimate, 13 children die per hour in India, due to diarrhea caused by contaminated water.

Polluted water is like poison for human beings. Large amounts of chloride in drinking water deform the spine which becomes snaky and their teeth go yellow, start falling and moreover their hands and feet lose flexibility of the bones and their body deforms. It also increases the risk of kidney diseases. A large amount of sulphide in polluted water is the reason of various respiratory diseases and drinking water contaminated with urea increases intestinal disorder. Thus continuous intake of contaminated drinking water is the reasons behind various stomach related disorders and other diseases like lumps in throat, tooth decay, etc. The factors causing most harm to human health through contaminated water are pathogenic microbes. Based on these, diseases generated by contaminated water are divided into the following main categories:

- a) By virus – Jaundice (Yellow Fever), polio, gastroenteritis, common cold, infectious liver Sod, and smallpox.
- b) By bacteria – Diarrhea, loose motions, paratyphoid, high fever, cholera, whooping cough, gonorrhea, syphilis, gastroenteritis, dysentery, and tuberculosis.
- c) By protozoa – Diarrhea, dysentery, narcolepsy (epidemic encephalitis), malaria, amoebiasis, and giardiasis.
- d) By worm – Filariasis, hydatid cyst and a variety of worm disease (various types of stomach worms).

Leptospirosis disease – In addition to organisms that cause disease in our body, various types of toxic substances harm our health reaching our body through water. The main toxic elements among them include cadmium, lead, nickel, silver, arsenic, etc.

- e) Excess quantities of iron, manganese, calcium, barium, chromium, copper, cilium, boron, and other salts such as nitrate, sulphate, borate, carbonate, etc.s in water have adverse effects on human health.

- f) The excess of magnesium and Sulphate in water irritates the intestines.
- g) In children, the excess of nitrate leads to the disease methemoglobinemia and generates stomach cancer by reaching the intestine.
- h) Fluorosis is a disease caused by excess of fluorine.
- i) Excess level of mercury in fish is dangerous especially for small children and pregnant women or nursing women. It interferes with the central nervous system development in the foetuses and young children.
- j) Water pollution is dangerous for all life forms in this universe. Pollution of water leads to several illnesses.

4.2.1 Water Management

The Institutes, hospital and hostels need fresh water for various purposes like domestic use, laboratory, green belt maintenance, washings, laundry etc. Water management and conservation is in good condition. Water Requirement on daily basis: The campus includes college, hospital, hostel, canteen etc. and the total water requirement is about 350 cum/day on peak load capacity.

4.2.1.1 Source of Water

Water is pumped through river as well as bore wells and some part delivered through Malkapur Municipal Council.

4.2.1.2 Requirement, Waste generation, Treatment & 3 reuse practice

The hospital has received consent to operate under water Act 1974, Air Act 1981, Authorization under rule 5 of the Hazardous Wastes (M, H & T M) rules 2016 and Biomedical Waste Management rules 2016 from Maharashtra Pollution Control Board. The copy of same is enclosed as **Annexure IV**.

Table 5.0: Water Uses in the campus are tabulated as follows

Fresh Water Consumption			
Sr. No.	Description	Water Consumption (M3/day)	Source / Remark
1	Domestic		Fresh water from
	a) Hospital	74	1. Malkapur Nagar Parishad - 40 m3/Day
	b) Hostel	185	2. Koyana River (Irrigation) - 750 m3/Day
	c) College	129	3. Ground Water - 50 m3/Day
	d) Staff Quarters	16	
	e) Visitors	38	
2	Laundry	32	
3	Lab Washing	8	
4	Miscellanies	10	
	Total	492	Fresh water

Treated Waste Water Consumption			
Sr. No.	Description	Water Consumption (M3/day)	Source / Remark
1	Gardening	304	Treated / Recycle water from STP Plant
2	Flushing	31	
	Total	335	

Table 6.0: Other Water data is as follows

Sr. No.	Aspect	Details
1	Water and waste water treatment system	The hospital has following treatment systems on the premises: • Water Treatment Plant of 750 m3/d capacity • Sewage Treatment Plant of 500 m3/d capacity - 2 numbers • Effluent Treatment Plant of 100 m3/d capacity • RWH provided
2	Water coolers with drinking water filtration	• Aqua guard - 38 • R.O. systems - 3 • Coolers - 47
3	Number of urinals and toilets	• Western WC - 772 • Indian WC - 402 • Urinals - 217
4	Number of waterless urinals	Nil
5	Number of bathrooms	755
6	Number of water taps	5387
7	Water taps in laboratories	450
8	Number of bore wells	7
9	Number of ponds	Nil
10	Water pumps	• 2 pumps of 7.5 HP bore • 5 pumps of 5 HP bore • 2 pumps of 10 HP river water
11	Quantity of water pumped	500
12	Water charges paid	Rs. 47995 paid to lift irrigation management division, Ogalewadi Karad
13	Number of water tanks for storage	32
14	Quantity of water stored	1900

Water Wastage

Being an environmental conscious entity KIMSDU is aware of their responsibility and do regular check for identifying water leakages or wastages. At present there is no leakages or over usages of water identified.

Trade Effluent

The trade effluent is mainly from laboratory, laundry, operation theatres and other sources than the domestic effluent. The trade effluent is passed through a common drainage line and through coarse screen followed by oil and grease trap. The free and floating materials are collected from the screen chamber and disposed off as per the regulation. The oil skimming from the oil and grease trap are collected manually and disposed off as per regulation. The effluent then is collected in a collection tank and fed to the primary treatment unit comprising of flash mixer and settling tank. A dose of alum is added for enhancement of settling of solids in the settling tank. The sludge removed from the settling tank is discharged to sludge drying beds for natural drying. The dried sludge is disposed off to the CHWTSDf. The overflow of the settling tank is added to the MBBR tank of STP for further treatment. The treated effluent meets to the norms laid down by regulatory authorities. The management is carrying out 3rd party testing for trade effluent and domestic effluent

Domestic effluent

The raw sewage from various sources like toilets, canteen, etc. are collected through a common drain line and collected in a collection tank. The raw sewage is then pumped to screen chamber and oil and grease trap for removal of screenings and free and floating oil. The screenings and oil skimming are disposed off as per the regulatory norms. The overflow of the oil and grease trap is taken to MBBR (Moving Bed Biological reactor). The MBBR tank is provided with PVC fill media and diffused aeration system for biological treatment of sewage. The microorganisms are grown on the PVC fill media in the form of colonies and consume BOD from the sewage as their substrate. The air supplied from twin lobe type air blowers through the fine air bubble diffusers shall act as an energy source for microorganisms.

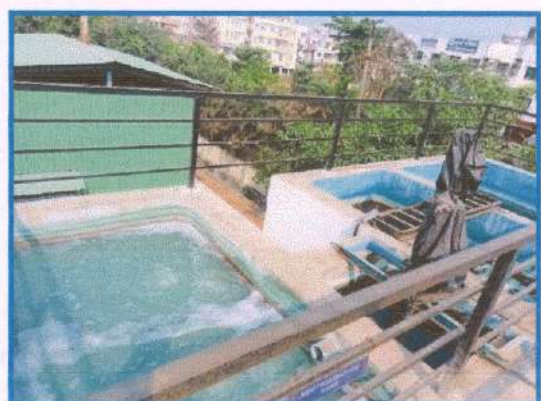
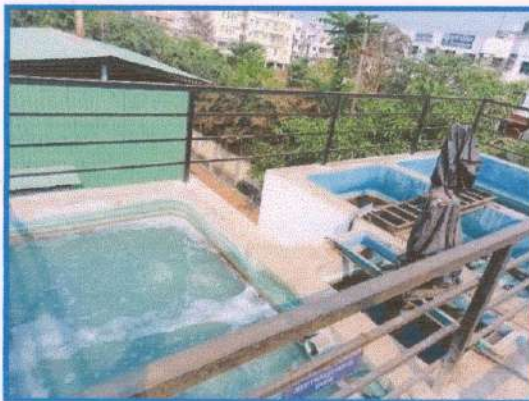
Third party certification of treated sewage and effluent: The untreated and treated trade and domestic effluents are tested on monthly basis through third party which is NABL and MOEF accredited.

A copy of report is enclosed as an *Annexure V*.

Schematic Diagram of STP is enclosed as *Annexure VI*

Photographs 2 : Trade & Domestic Treatment Facility

ETP Photographs



Old STP Photographs



New STP Photographs



4.2.2 Storm Water & Rain Water Harvesting

Storm water is any water running off a land surface before it reaches a natural water body. It occurs when the rate of precipitation is greater than it can infiltrate, or soak, into the soil. Runoff also occurs when the soil is saturated. Runoff remains on the surface and flows into streams, rivers, and eventually large bodies such as lakes or the ocean. Impervious surfaces such as driveways, sidewalks, and streets block rainfall and other precipitation from infiltrating naturally into the ground, leading to even more storm water and potential pollutant runoff.

The average rainfall in the region is 600 mm and the storm water management system is designed for peak rainfall of 100 mm. The campus has provided 2.0 m wide and 1.5 m deep trenches along the boundaries of the campus which are connected to the natural drainage outside of the campus. All roads and internal drains are connected to

these storm water drains. All water on plain area and roofs is diverted systematically to these drains through the internal network of smaller drains of 0.5 M wide x 0.5m wide drains. The network of drains ensures that there is no flood like situation in the campus during peak rainfall. The harvesting of rain water simply involves the collection of water from surfaces on which rain falls and subsequently storing this water for use. The rain water collected can be stored for direct use or can be recharged into the underground aquifers. In scientific terms water harvesting (broadly) refers to collection and storage of rain water from the roof tops. This also restricts evaporation and seepage into building foundations.

A rain water harvesting system consists of:

- Roof catchment
- Down pipes
- Storage tanks/Pits/Sumps
- Ground water recharge structures like pit, trench, bore well, or combination of these structure.
- Rain / Storm water drains
- Filter chamber

RWH is a way to capture the rain runoff, store that water above ground or charge the underground aquifers and use it later. This happens naturally in open rural areas. But in congested, over-paved metropolitan cities, there is a need to devise methods to capture the rain water. The rain water that is incident on the surface / roof top is guided to bore wells or pits or new/old/abandoned wells through small diameter pipes to recharge the underground water which can be used later whenever required. Rain water can be harvested to the extent of 65,000 litres per 100 sq. m. area per year from roof tops.

KIMSDU has implemented full fledge Rain Water harvesting Plan in their premises.

Sr. No.	Building Name	Year	Terrace Area Sq. M.	Water Collection Lac. Lit./year	Recharge pit near Bore
1.	Krishna Institute of Allied Sciences	2019	1600	8.08	Bore No. 2
2.	Hostel No. 4 & 7	2019	1740	8.79	Bore No. 5
3.	Hostel No. 5 & 6	2019	1700	8.59	Bore No. 6
4.	Admin office, OPD Building & Cobalt Unit	2019	1300	6.57	Bore No. 3
5.	Ladies Hostel No. 1	2019	1300	6.57	Bore No. 4
6.	Ward No. 3 & 18	2019	1000	5.05	Bore No. 4
7.	D type staff quarter	2020	640	3.23	Bore No. 3 & 4
8.	IHR Hostel (New)	2020	450	2.27	Bore No. 3 & 4
9.	NRI Hostel	2020	500	2.52	Bore No. 3 & 4
10.	Medical College (North West Side)	2021	2000	10.11	Bore No. 1
11.	Parking Building	2021	3000	15.16	Bore No. 1
12.	School of Dental Sciences	2022	1750	8.84	Bore No. 7
13.	Krishna Institute of Medical Sciences (East Side)	2022	1115	5.63	Bore No. 7
14.	Ward No. 38, 39, 40	2022	1500	7.58	Bore No. 7
15.	Krishna Institute of Pharmacy & Gym Hall	2022	1335	6.74	Bore No. 7
16.	BDS Hostel	2022	640	4.00	Bore No. 2
17.	Ward no. 14, 19	2022	766	4.78	Bore No. 3

Photographs 3 : Rain Water Harvesting in KIMSDU



4.3 AIR ENVIRONMENT

For the Institute campus the indoor as well as outdoor air quality is very important. The outdoor air quality shall depend on levels of dust, traffic, greenery, quality of roads, level of air pollution due to other sources nearby etc. The immediate effects of poor outdoor air quality are hard to ignore. Watery eyes, coughing and difficulty breathing are acute and common reactions. An estimated 92 percent of the world's populations live in areas with dangerous levels of air quality and even at seemingly imperceptible levels; air pollution can increase one's risk of cardiovascular and premature death. Consistent poor air quality during pregnancy has been linked to miscarriages as well as premature birth, autism spectrum disorder and asthma in children. Poor air quality may damage children's brain development, and pneumonia, which kills almost 1 million children under the age of 5 every year, is associated with poor air quality resulting from air pollution. Children who breathe in higher levels of pollutants also face a greater risk of short-term respiratory infections and lung damage. Other conditions associated with high levels of poor air quality include emphysema and chronic bronchitis, as well as lung cancer. Pollutants can affect cardiovascular health by hardening the arteries and increase the risk of heart attack and strokes, and there is even emerging evidence that air pollution may be linked to mental health conditions and degenerative brain diseases such as Alzheimer's disease, Parkinson's disease and schizophrenia. While poor air quality due to air pollution's link to respiratory disease may seem obvious, its relationship to heart, brain and fatal health is less so. When the toxic soup of chemical particles and liquid droplets emitted by cars, power plants, fires and factories known as particulate matter is inhaled, the microscopic toxic dust can irritate nasal passages and result in an allergic-type response to the pollution, with symptoms like coughing and a runny nose.

Scientists believe that as the particles make their way deeper into the airways and into the lungs, the body may mistake it for an infection, triggering an inflammatory response. "When you have a bad head cold, you feel sick everywhere and your muscles might ache," Gerber said. "The same thing can happen when you breathe in pollution". Scientists also suspect that some toxic particles can escape the lungs and enter the bloodstream.

4.3.1 Ambient Air Quality

The Institute campus does not have incinerator or any other source of continuous emissions. The university campus has however provided 4 DG sets viz. 2 sets of 250 KVA, one 500 KVA & one 600 KVA capacities each as a stand by in case of power failure. The DG sets are used only in case of emergency. The fuel required for DG set is HSD (1300 Lit/month) with 342976 units average monthly unit consumption and DG sets are provided with acoustic enclosure and stack of adequate height.

In order to maintain ambient air quality as per norms laid down by Central Pollution Control Board following precautions are taken by the management;

- Roads inside campus are tarred and concreted.
- Well-developed green belt is maintained. Roads are frequently cleaned and watered.
- Any civil work / repair work is done with proper cladding. Material movement is done in closed trucks.
- Only PUC certified vehicles are allowed in the campus.
- The hospital campus in collaboration with Central Pollution Control Board is setting up continuous online ambient air quality monitoring station.

Photographs 4 : DG Set with adequate Stack Height as per Consent



4.3.2 Indoor Air Quality

Hospitals are the places we visit to get treatment in the case of any health-related issues. However, we often ignore that hospitals are also the host to many types of air pollutants hence causing airborne infections, commonly referred to as "Hospital Acquired Infection" [HAI]. Poor Indoor Air Quality inside healthcare facilities is more harmful as compared to bad indoor air of any other place, like hotels or workplaces as other than dust and other pollutants, it involves hospitals and pharmacy related chemicals, and various types of known and unknown bacteria and viruses responsible for spreading cross infections. According to the World Health Organization, at any given time over 1.4 million people across the globe suffer from a nosocomial or HAI (Hospital Acquired Infection). HAIs account for 2 million ailment cases and about 80,000 deaths a year. Hence, it becomes really important for healthcare facilities to maintain the indoor air quality to safeguard patients, staff, caregivers and also the visitors from hospital- acquired infections. Before we dive into the solutions, let us first understand the main factors responsible for poor air quality inside healthcare facilities and where are they found;

1. **Outpatient Departments** : OPDs are the busiest areas in any hospital. Many of these patients are carriers of harmful bacteria and viruses and they are highly infectious because their medication hasn't even started. They all sit in the same room for hours and this might cause cross infection to others and also to the doctor and other staff.
2. **Operation Theatres** : Surgical care is one of the most crucial and integral parts of healthcare however, it is also associated with risks related to infections. Surgical site infections (SSIs) remain one of the most common causes of serious surgical complications in Healthcare Associated Infections (HAI) and one of the main factors for these infections is circulation of stale air and poor air quality.
3. **Intensive Care Unit** : Several patients are kept inside the Intensive Care Unit for observation and also to protect them from outside infection. A visit to by any outsider to ICU is often taken with precautions still the prevalence of HAI remains really high in ICUs. And, this influences the mortality and morbidity pattern of ICUs.
4. **Maternity wards, Neo-natal and Paediatric ICUs**: Maternity wards and Paediatric ICUs can be breeding grounds of several infections and they affect mothers and infants at a time when they are most vulnerable.
5. **Waiting areas and halls** : These are the places where people gather in large numbers and not all healthcare facilities are adequate enough to maintain cleanliness and proper air quality in these spaces, hence it enhances the risk of infections amongst visitor and caregivers.
6. **Storage units**

It is really important for the staff to maintain the hygiene of storing places because just the presence of fungi in hospital air is a matter of great concern as many spores can be released leading to an incidence of HAIs and occupational infections.

How to improve the above are just a few examples of how the infection spreads through impure Air in Hospitals, clinics, diagnostics labs, etc. There are several other sources through which HAI can spread.

Indoor Air Quality at KIMSDU

The hospital is taking following steps to improve the Indoor Air Quality.

- a. Presence of patients is the main reason for any hospitals for maintaining the IAQ but patients are also the major source of air contaminants, like bacteria, viruses and foul smell coming from the wounds and other infections. The facility staffs comes in direct and immediate contact with patients so it is important for staff to use proper masks and gloves while handling patients and follow all hygiene protocol designated & facilitated for them.
- b. Protocols for housekeeping as per the various departments of hospital are fixed and critically followed.

A few documents related to protocols, check points, recruitment of staff for housekeeping are enclosed as Annexure VII.

- c. Adequate ventilation and illumination is provided as per standards.
- d. Proper humidity is maintained.
- e. HVAC system is provided to maintain proper quality in wards, operation theaters, and various departments.
- f. Differential Pressure controls are maintained as per standards.

The hospital maintains following standards of various measures to keep the indoor air quality as per norms. Following Air changes are maintained for various departments;

Table 7.0: Indoor Air Monitoring Details

Area	Outdoor air	Total air	Outdoor air
	change rate	change rate requirement	
	ACH*	ACH	L/s/Person
Patient room	2	4	13
Operating theatre	15	15	15
Intensive care unit	2	6	8
Infectious isolation room	2	6	–
Protective isolation room	2	15	–
Laboratory	2	6	–
Delivery room	15	15	–

The Filtration systems are provided at various departments with following efficiencies;

Area	Filter	
	Pre-filter	Final Filter
Patient room	25–30%	90%
Infectious isolation room	25–30%	90%
Protective isolation room	25–30%	90–99.97%
Intensive care unit	25–30%	90%
Delivery room	25–30%	90%
Laboratory	80%	--
Operating/surgical room	25–30%	99.97% (90%Plus Additional)

Thus the hospital campus is taking proper care to maintain very good quality of outdoor as well as indoor air quality.

4.4 WASTE GENERATION & MANAGEMENT

The hospital campus is generating various types of hazardous and non-hazardous solid wastes as under. Waste, E Waste, Municipal Solids Waste, Non Hazardous waste like metal scraps, papers etc.

The hospital has also made SOP for condemnation of disposal of items wide Doc. Under the said SOP detailed procedure is outlined for disposal of various items.

4.4.1 Biomedical Waste

The Ministry of Environment and Forests and Climate Change has published Biomedical Waste Rules in 2016 wide GSR 343 (E) dated 28th Mar 2016 and the same are subsequently amended in the year 2018 wide GSR 234 (E) dated 16th Mar 2018.

The notification specifies the practice to be followed for disposal of biomedical waste and compliances to be made.

The hospital has obtained authorization for bio medical waste from Maharashtra Pollution Control Board.

Bio-medical waste means waste, which is generated during the activities performed at;

- Medical enterprises and those are like diagnosis, treatment of human beings or animals,
- Medical research activities,
- Production or testing activities involved biological phenomenal.

These different wastes are categories and mentioned in Schedule I appended to BMW Management Rules.

Bio Medical waste consists of categories with color code :

- 1 Yellow : Human anatomical waste, Animal anatomical wastes, Soiled Wastes, Expired or Discarded Medicines, Chemical Wastes, Chemical Liquid Wastes, Discarded Materials (Ex. Bed sheets, etc), Microbiology, Biotechnology and other clinical laboratory waste.
- 2 Red : Contaminated Waste (Recyclable)
- 3 White : Waste sharps including Metals
- 4 Green : Glass Ware, Metallic Body Implants

Main groups at risk are

- Facility Owners, Handlers
- Doctors, Nurses, Paramedical workers
- Patients & Visitors establishments
- Workers involved direct and Indirect services along with and its allied services such as laundry activity, waste handling, segregation and transportation
- Workers involved at waste facilities e.g. landfills, incinerators, Etc.

Need of biomedical waste (BW) management in hospitals

The reasons due to which there is great need of management of hospitals waste are listed out and those are ;

- BW sharps may lead to injuries and are infectious for all concern people involved in the activity.
- Poor infection control and waste management have adverse impacts. .
- Risk of infection outside the hospital environment & Public. Also to those who handle to it, scavengers and sometimes general public living in the vicinity of hospitals.
- High Risk due to handling of various categorized waste hazardous chemicals, drugs to persons handling wastes.
- Malfunctioned activities such as, Disposable materials are repacked, sold without any standard practice.
- Expired Drugs, being repacked and sold.
- Risk of air, water and soil pollution directly or indirectly due to waste handling and its disposal practices such as defective mechanism, emissions and waste such as ash.

BMW Management at KIMSDU

The biomedical waste from the hospital campus is categorized in four categories as per the BMW rules. The waste arising out of various departments is sorted out and stored in dedicated containers with Yellow, White, Red and Blue color. The waste is segregated, Stored with classification as per Categories mentioned in BMW rules. The category wise waste is weighted and documented. The waste is daily collected by the Authorized facility operator for scientific storage and scheduled disposal practice. The records of daily waste generation and disposal are maintained by the concerned department. A system of gate pass is maintained at the time of handling over waste to the Authorized representative of facility operator. A sample copy of documentation maintained is enclosed as **Annexure VIII**.

Photographs 5 : Biomedical Waste Management in KIMSDU



4.4.2 E- Waste

Electronic waste (e-waste) is when electronic products that have come towards the end of their "useful life." Recycling of used electronic devices is important to make sure that we are protecting the environment. Following are 5 reasons why electronic waste is such a problem

1. Electronic waste keeps growing and growing
2. Environmental effects of e-waste
3. Tons of e-waste is shipped overseas
4. Health implications of electronic waste
5. Electronic waste and data security

In order to have scientific management of E Waste the Ministry of Environment and Forests and Climate Change has published E Waste Management rules wide GSR 338 (E) dated 23rd Mar 2016 and the same are subsequently amended wide GSR 261 (E) dated 22nd Mar 2018. These rules makes every manufacturer, producer, consumer, bulk consumer, collection centres, dealers, e-retailer, refurbishes, dismantler and recycler involved in manufacture, sale, transfer, purchase, collection, storage and processing of e-waste or electrical and electronic equipment listed in Schedule I, including their components, consumables, parts and spares which make the product operational to meet the compliances as specified in these rules.

The KIMSDU management of the Institute has entered into agreement with authorised party, for disposal of E Waste generated from the hospital and institute campus. The said firm has valid consent to operate from Maharashtra Pollution Control Board. The disposal of E Waste is documented by the concerned department giving all details of the equipment's to be disposed off like Name of Equipment, Serial Number, Model, Make and Quantity. The E Waste is handed over to the authorized recycler as per the rules of E Waste rules. A sample copy of same is enclosed as **Annexure IX**.

Photographs 6: E- Waste Management in Institute



4.4.3 Municipal Solid and Other Wastes Management at KIMSDU Campus

The ministry of Environment and Forests and Climate Change has published notification for handling of Municipal and other solid waste wide GSR 1357 (E) dated 8th Apr 2016 which apply to every urban local body.

The hospital campus generates various types of waste like food waste from canteen and mess, lawn cuttings, tree leaves, papers, metal scrap of various types, waste material etc. These wastes are segregated into various categories like bio degradable and non- biodegradable. A dedicated area is marked for storage of these types of wastes. Only authorized persons are allowed to enter the same. The biodegradable waste from the whole campus consisting of food waste, tree leaves, lawn cuttings is estimated to be 500 to 700 kg/day. The said waste is converted into bio compost through waste composter of capacity 1000 kg/day. Special microbial culture is used for accelerating the bio composting process. The bio compost is used as manure for green belt in the campus. Other waste is segregated as per the category and is sold to authorized recycler. The records of waste disposed are maintained by the stores department.

Photographs 7 : Bio-Composting (Clean India Initiative)



4.5 ENERGY ENVIRONMENT

Electricity in Institute is used for wide variety of purposes like lighting, cooling/heating equipment, Vacuum & air compressors, water pumps, fans, laundry, kitchen, medical equipment's, ovens, etc. The institute campus is presently buying electricity from Maharashtra State Electricity Distribution Co. Ltd. The hospital campus has sanctioned load which is well within connected load. The average monthly unit consumption is 350,000 units. The Reports and the records are maintained at Electrical Department.

The Sample is enclosed as *Annexure X*

Energy Conservation/Use of Non-Conventional Energy Sources

The KIMSDU has installed 995 KWP solar panels in the campus. The average power generation for solar power is @ 88505 units/month. This shall result in saving of @ 64800 kg of emissions of CO₂. This shows the commitment of management towards sustainability.

Photographs 8 : Solar System Installed at Institute



Following energy conservation measures are undertaken by the management;

- Maximizing usage of natural light during the day through passages and corridors;
- Turning off office equipment, fans and air-conditioners during unoccupied hours;
- Educating people about reasonable and efficient usage of water heaters and other electrical appliances;

- Plugging air leakages in air-conditioned rooms such as office spaces, operation theatre;
- Turning off water pumps when the tanks filled up
- Catchy campaigns that made use of easy to remember slogans;
- Use of various communication tools such as posters at strategic locations to inform staff of the steps that can be taken to conserve energy and minimize wastage
- Installation of Lighting controls including timers and occupancy sensors
- Use of Variable Speed Drives (VSD)
- Upgrades to Heating Ventilation Air-Conditioning and Cooling (HVAC)
- Dampers, actuators and controls
- Voltage Regulation Units (VRUs)
- Demand response management
- Building Automation
- Building sealing

4.6 SAFETY AND HEALTH ENVIRONMENT

Hospitals are representative of complex environment in which different aspects including patients, staff, equipment, services, and information are interfaced. Maintaining a safe environment with respect safety and health reflects a level of competent healthcare that must be fulfilled for patient safety. In this context, the clinical engineer plays an important role in providing safe environment within hospital.

4.6.1 Fire Safety

Following provisions have been made to deal with fire safety.

- a. Provision of Full fledge fire detection, fire hydrant and fire extinguishers system as per the requirement.
- b. Disaster Management Plan for the whole campus is in place. The Copy is available at Fire Department and, Security, Management Representative, Environment Officer.

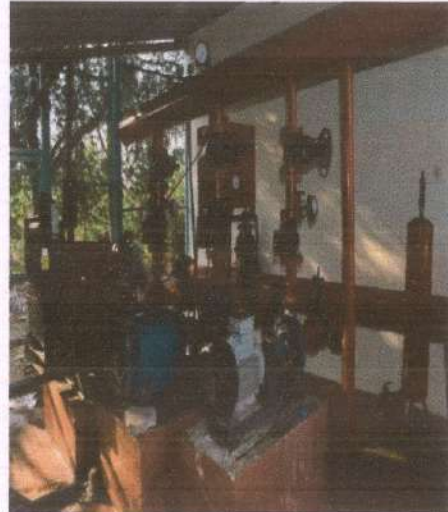
- c. Regular fire drills and trainings are undertaken and records are maintained. A copy of sample Fire Mock Drill & Record is enclosed as *Annexure XI*.
- d. Fire escape plan are made and are displayed at various locations. The fire exits are well defined and end on the ground floor or refuge area or any safe place decided by the management. The Fire Signage's are appropriate and placed at the right locations. Emergency fire signage's are glow in dark signage's. The Fire Signage's are visible and are bilingual, with one local language. The egress routes are free from any materials that would cause hindrance in the evacuation. The Fire Doors have a proper fire rating and open outside.
- e. The campus has implemented Code Red system for fire emergency
- f. All the equipment have an organized preventive maintenance schedule that is recorded and stickers put on the computer showing the date of preventive maintenance check and the next time for maintenance. Fire systems are regularly checked and the records are made by Fireman. A sample copy of records is enclosed as *Annexure XII*.
- g. A plan showing locations of fire hydrants / fire extinguishers is displayed at prominent location.
- h. The appropriate type and several fire extinguishers have been installed according to the kind of fire that could take place like Kitchen, MRI, Electrical room, data centre area. The Fire Extinguishers have a regular preventive maintenance schedule and stickers are put showing the date of checking and the next scheduled date for verification. Approx. 10% of Fire Extinguishers are used every year for checking the same. Fire extinguishers are regularly checked and replenished before the expiry period. A contract with the competent agency is made for same.
- i. A multidisciplinary safety committee is formed, with a senior person as the chairman of the safety committee. The safety committee meetings are held at least once in a month.
- j. The organization has appointed Fire Safety Officer-in-charge of all concerns related to Fire Prevention & Safety.
- k. It also has a written plan for Fire Prevention and Safety and has a Fire Safety Manual approved by the safety committee.

- l. It also has an Emergency Command Centre that becomes functional immediately whenever there is an emergency. There are a written protocol and written constitution for the committee. The Fire Command Centre is also updated with the name of the members. A designated person has the responsibility of informing all the Emergency Command members.
- m. The HVAC system has appropriate fire dampers to prevent the spread of the fire that functions correctly in case of fire. The dampers are tested and have a regular preventive maintenance schedule.
- n. Gas cylinders and medical oxygen cylinders are secured and stored properly. Medical oxygen monitoring system is in place.

4.6.2 Patient and Staff Safety

The hospital has well laid SOP for patient and staff safety. The document covers following important aspects;

- a. Defining Policy
- b. Formation of Safety Committee
- c. Defining role of committee.
- d. Monitoring of sentinel / adverse events and near misses.
- e. Staff safety related to prevention of HAI
- f. Environmental safety aspects covering smoking limitation policy, patient safety, facility building and installations.
- g. Various safety related SOP's like Smoking Limitation Policy, Radiation Safety Program, safety in labs, management of hazardous material , safety related to medical gases, needle handling policy, disinfection and decontamination protocols and incident reporting are in place.
- h. Safety related quality indicators are fixed for various mock drills, incidences of falls in hospital, number of sentinel events and critical equipment down time.

Photographs 9: Fire Fighting System at KIMSDU

4.6.3 Radiation Safety

Radiation protection is a public health issue for a number of reasons. First, health effects of radiation are not unique. Second, individuals have only a limited ability to structure or control their own environment. Although radiation exposure awareness has increased among the general public, there is still very little monitoring of cumulative radiation exposure over a patient's lifetime. Successful radiation safety programs must

balance engineered safety and personnel training considering technical, scientific, economic, human, and ethical aspects of radiation use. The medical safety programs must adequately protect patients, care givers, visitors, and the general public.

Non ionizing radiation is also a significant health hazard in all hospitals. This type includes ultraviolet, microwave and laser radiation. Ultraviolet (UV) radiation is frequently used in sterilization procedures. In fact, UV exposures are best controlled by limiting exposures as function of energy. In application, Microwave radiation is commonly used in hospital diathermy treatment and in microwave ovens. Microwave radiation is controlled by limiting exposure and sources should be periodically surveyed with measurement equipment. On the other side, Lasers have an increasing role in medical treatment. Eyewear is the most common method of protection.

The hospital has well laid protocols and procedures for radiation safety.

In case of handling of equipment's like MRI/CT Scan/X-Ray, following precautions are taken;

- a. MRI Machines
- b. MRI Machine Rooms are isolated Properly from surrounding with key locking door
- c. MRI technician is properly trained
- d. MRI compatible ventilator available for emergency
- e. All warning signed are displayed in waiting area CT scan / X-Ray Machines
- f. The CT gantry room walls are 9' and are lined by 2mm lead sheet
- g. Technicians are properly trained
- h. All warning signs are displayed outside CT scan area
- i. Lead Apron provided to staff
- j. Periodical QA performed for machine
- k. Do's and Don'ts Displayed on Machine

4.6.4 Infection Control

Infection control provides a framework for identification of a hazard and development of an action plan to eliminate the hazard or minimize its effect through control measures. Control has been achieved by recognizing the means of growth, reproduction and

transmission of pathogenic microorganisms. The main components of an effective infection control program are listed as following.

The hospital management is taking effective steps related to same in following manner.

- a. Education and training to staff
- b. Surveillance of infection
- c. well defined Policies, procedures, and guidelines
- d. Conducting regular Audit's.
- e. Regular Monitoring of hospital hygiene

Following Standard precautions are being taken

- a. Hand washing and antisepsis (hand hygiene)
- b. Use of personnel protective equipment when handling blood, body substances, and secretions
- c. Appropriate handling of patient care equipment and soiled linen
- d. Prevention of needle stick / sharp injuries
- e. Environmental cleaning and spills-management
- f. Appropriate handling of waste

Additional (transmission-based) precautions while ensuring standard precautions include;

- a. Airborne precautions
- b. Droplet precautions
- c. Contact precautions

4.7 NOISE / AESTHETICS / SOCIAL ENVIRONMENT

Noise is defined as unwanted sound. Several studies have been conducted for hospital noise that linked hospital noise to a variety of negative physiological outcomes. The WHO has recommended that noise level should not exceed 35 dB in rooms where patients are treated or observed and 30 dB in wards rooms. Hospitals have various sources of noise such as alarms, paging systems, telephones, computer printers, televisions, delivery carts, staff conversation, equipment, housekeeping activities, air conditioning systems, doors opening and closing, and sounding systems. Of course, one physical effect of the noise is human stress which should be avoided in hospital environment. Topf and Dillon (1988) have described human effects due to noise-induced stress as decrease in sustained attention, rapid detection, multiple single tasks, and incidental memory.

To overcome the problem of noise within hospitals, following preventive procedures are being carried out.

- ✓ A regular check and maintenance to all systems that are considered as sources of noise including equipment.
- ✓ Regular Monitoring of noise levels
- ✓ Acoustic enclosure to high noise machine like DG set.

Aesthetics / Green Belt

The University campus has provided 38% of total area for green belt and open spaces. Various types of trees (@ 3716) are planted in the campus and treated sewage is being used for green belt development.

Photographs 10 : Green Belt Development at Campus**Social Environment**

The institute provides direct and indirect employment over 3000 persons. Various CSR activities are carried out by the hospital like Medical camps, Free Medicines to the needy, Free food to poor patients, Free treatment to the poor patients, Awareness programs for Breast Feeding.

5.0 Conclusion

The Green Scientific Development (I) Pvt. Ltd. audit team carried out environmental audit as per the schedule set for the site covering all the campus activities and its environmental essential aspects for the set objective. The audit included filling checklist, Physical inspection during site/field visit, verifications of documentation, discussions/interview with concern department person and Sample/Evidence collection.

The data and evident collected, verified and checked for its compliances w. r. t. legal and other requirements applicable for KIMSDU, Karad under valid CTO/Authorization and ISO 14001:2015 certification. Found to be satisfactory, meeting to the compliances with applicable consented conditions, standards, Management Policies and ISO 14001:2015 valid certification after completion of Surveillance Audit II February 2022 by certification agency.

In nutshell, the organization is using resources as per optimum requirement and managing all the environmental aspects sustainable way with continual improvement. The compilation of Audit findings are as follows;

Table 8.0: Compilation of Environmental Audit Report

Environmental Aspects	+Ve Observation	Non Conformity Major (M)	Non Conformity Minor (m)	AREA For Improvement / Recommendation
Legal Compliances	Y	N	N	N
EMS Activity	Y	N	N	N
Water Environment	Y	N	N	N
Air Environment	Y	N	N	N
Bio Medical Waste	Y	N	N	N
E Waste	Y	N	N	N
MSW & Other waste	Y	N	N	N
Energy	Y	N	N	N
Safety & Health	Y	N	N	N
Radiation Safety	Y	N	N	N
Infectious Management	Y	N	N	N
Noise / Aesthetic/ Social Env.	Y	N	N	N

Y – Yes, N – No, AFI-Area for Improvement, AFI*-* Number of AFI

5.1.1 List of the Area for improvement (AFI)

AFI¹ : Nil

5.1.2 Positive (+ Ve) Observation

- Valid Bio Medical Waste Authorization obtained, maintained and compliance.
- Certified ISO 14001:2015 version.
- Surveillance Audits conducted successfully.
- Facility is compliancing all the legal & other requirements.
- Installed and handling all the pollution abatement facilities successfully without any non-compliance.
- The Management is fully involved in the EHS activity positively with the funds and resource provision.
- Natural Resource Management and Reuse recycle & Recovery principle are in place.
- Wastewater fully treated and recycled back for its reuse and reducing consumption of Fresh water.
- RWH is implemented in the premises to the possible extend and new efforts put for Bore No.2 & 3.
- Use of Renewable energy is providing with the provision of Solar Panels.
- Ambient Air, Indoor Air Quality maintained satisfactorily.
- Noise Environment is to the mark for sensitive area.
- Solid Waste, E-waste management facilities are established as per requirement and operations are handled satisfactorily.
- Bio Medical Waste collection, segregation, storage and disposal found compliancing requirement of Bio Medical authorization issued by MPCB.
- Radiation management is to the mark
- Pollution parameter monitoring is carried out regularly from 3rd party.
- Fire and Safety aspects in the premises handled to the mark.
- Massive Tree Plantation is carried out and green belt is maintained.
- CSR is planned and regularly implemented.

REGISTRAR
Krishna Vishwa Vidyapeeth
(Deemed to be University),
Karad

8 Photo Gallery (KIMSDU CAMPUS)




REGISTRAR
Krishna Vishwa Vidyapeeth
(Deemed to be University),
Karad

ANNEXURES


REGISTRAR
Krishna Vishwa Vidyapeeth
(Deemed to be University),
Karad

ENVIRONMENTAL AUDIT REPORT FOR KIMSDU

10th October 2022

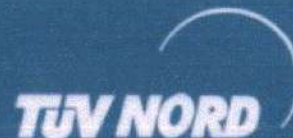
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Annexure I Layout of Campus



ANNEXURE II Lead Auditor Certificate



**PR315: ISO 14001:2015 Lead Auditor
(Environmental Management Systems)
Training course**

Certificate of Achievement

Mr Kiran M Shinde

has successfully completed the above mentioned course and examination.

11th - 15th March 2019

MUMBAI, INDIA

Certificate No. 35242852 02

Delegate No. 168345

A handwritten signature in black ink, appearing to be "K. Shinde", written over a horizontal line.

for TÜV NORD CERT GmbH

Essen, 2019-04-15

The course is certified by CQI and IRCA (Certification No. 18125). The learner meets the training requirements for those seeking certification under the IRCA EMS Auditor certification scheme.

TÜV NORD CERT GmbH

Langemarkstraße 20

45141 Essen

www.tuev-nord-cert.com



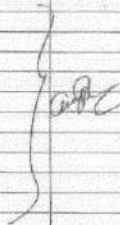
ANNEXURE III Water Consumption Report for April 2021 – March 2022

**KRISHNA INSTITUTE OF MEDICAL SCIENCES DEMIMED TO BE
UNIVERSITY, MALKAPUR KARAD, DIST-SATARA.
KRISHNA CHARITABLE TRUST, MALKAPUR KARAD.**

Dept. Name- **Civil/Maintenance Dept.**

Sangli Pathbandhare vibhag , Sangli , Inward No.6093
Koyana Rever Water Permission - 7th sept.1991
27,50,00,000 Lit/Year (7,50,000 Lit/day)
Water Storage Tank Capacity 7,50,000 Lit./Day

Water Consumption Report - April-2021 To March-2022

Month	Per day Water Consumption	Per Month Water Consumption	Checked By
Apr.-2021	4,33,000	12994000	
May	4,16,000	12896000	
June	4,64,000	13937000	
July	4,62,000	14335000	
Aug.	5,09,000	15786000	
Sept.	4,82,000	14464000	
Oct.	4,49,000	12576000	
Nov.	4,17,000	12109000	
Dec.	4,39,000	13197000	
Jan.-2022	565000	17474000	
Feb.	640000	17939000	
March	836000	25930000	

Sr.no.	Particulars	Details
1	Students staying at Hostels	1449
2	Students at College	3107
3	Teaching staff	340
4	Non- Teaching staff	1960
5	Visitors	3200/day
	Total	10,056

Average water consumption per day =5, 09,333 litre/day Average water

Average water consumed / person = Average water consumption/ Total person
= 5, 09,333 litre/day / 10,056

Average water consumed /person =50.64 litre / Person


CIVIL ENGINEER
K.J.M.S.D.U., KARAD

Annexure IV : Valid Consent Copy of KIMSDU by MPCB

MAHARASHTRA POLLUTION CONTROL BOARD

Tel: 24010796/24010437
Fax: 24023526
Website: <http://mpcb.gov.in>
Email: cac-cel@mpcb.gov.in



Kalpataru Point, 2nd and 4th floor, Opp. Cing Planet Cinema, Near Sion Circle, Sion (E), Mumbai-400022

REGD. S. No. Non-Format L/G/CAC/IAN No.0000138405/CR 5342000159 Date: 07/01/2021

To,
Mrs. Krishna Charitable Trust, Krishna Hospital & Medical Research Center,
Krishna Institute of Medical Sciences Deemed to be University, 144 B, Dhebewadi Road, Malkapur, Tal. Karad, Dist. Satara.

Sub: Grant of renewal of Combined Consent to Operate and Bio-Medical Authorization.

Ref: 1. Previous Combined Consent to Operate and Bio-Medical Authorization granted by the Board vide No. Format L/G/BO/IAN No. 53993/CAC-191100074 dated 02.11.2019.
2. Your application for renewal of Combined Consent to Operate and Bio-Medical Authorization vide IAN No. 0000138405 dated 30.07.2020.
3. Minutes of Consent Appraisal Committee meeting held on 09.12.2020.

Combined Consent to Renewal and BMW Authorization.

For: Under Section 26 of the Water (Prevention & Control of Pollution) Act, 1974 & Under Section 21 of the Air (Prevention & Control of Pollution) Act, 1981, Authorization under Rule 6 of the Hazardous & Other Waste Management & Transboundary Movement Rules 2016 and Authorization under Bio-Medical Waste Management Rules, 2016, and amendment thereof is considered and the consent is hereby granted subject to the following terms and conditions as detailed in the schedule I, II, III & IV annexed to this order:

- The Combined Consent to Renewal and BMW authorization is granted upto: **31.08.2024**
- The capital investment of the project is Rs.145.52 Crs. (As per C.A Certificate submitted by industry Existing-Rs. 91.38 Crs + Expansion/ Increase in C.A. Rs. 53.14 Crs).
- The Consent is valid for the Activity of

Sr. No.	Activity	Quantity	DOH
(1)	Hospital		
(a)	Beds	1025	Yes
(b)	Total Plot Area	126200.00	Sq.Mtrs
(c)	Total Built-up Area	18595.16	Sq.Mtrs

4. Conditions under Water (P&C) Act, 1974 for discharge of effluent:

Sr. No.	Description	Permitted (as CMB)	Standards to be achieved	Disposal
1.	Trade effluent	40.2	As per Schedule - I	Recycle for Secondary Effluent. Grounding purposes to the maximum extent and discharge remaining effluent into Sewer Line.
2.	Domestic effluent	400	As per Schedule - I	Recycle for Secondary Effluent. Grounding purposes to the maximum extent and discharge remaining effluent into Sewer Line.

5. Conditions under the Air (P&C) Act, 1981 for air emissions:

Sr. No.	Description of stack / source	Number of stacks	Standards to be achieved
1.	Steam Boilers (200 & 300 Kg/hr)	1	As per Schedule - II
2.	Oil Sds (2 x 250 & 300 Kg/hr)	1	As per Schedule - II

6. Conditions under Hazardous & Other Wastes (M & T M) Rules 2016 for treatment and disposal of hazardous waste:

Sr. No.	Type of Waste	Waste Category	Quantity (t/yr)	Treatment	Disposal
1.	25.3 Chemical sludge from waste water treatment	25.3	6.499	HTA, Secured Landfill	COWATCH
2.	W 2.2 Ash from incinerator and Run per cleaning method	W 2.2	72	HTA, Secured Landfill	COWATCH

7. Conditions under Non-Hazardous Wastes:

Sr. No.	Type of Waste	Quantity (t/yr)	Treatment	Disposal
1.	Dry Garbage	262186	Segregation	Auth. Vendor Local Body
2.	Food Waste	22776	Segregation to Composting	Used as manure
3.	SlTP Sludge	40	Drying	Used as manure

8. Treatment and Disposal of Biomedical Waste generated to CBMR/SOS:

Sr. No.	Category	Type of Waste	Quantity (Kg/M)	Segregation Color coding	Treatment & Disposal
1.	Yellow	(a) Human Anatomical waste (b) Surgical waste (c) Exposed or discarded needles (d) Microbiology (e) Biotechnology and other clinical laboratory waste	156.00 2607.00 3.00 130.00	Yellow colored non-chlorinated plastic bags	CBMR/SOS Karad Hospital Association
2.	Red	Contaminated waste (Sharps)	1024.00	Red colored non-chlorinated plastic bags or containers	CBMR/SOS Karad Hospital Association

Sr. No.	Category	Type of Waste	Quantity sent to incinerator (Kg/M)	Segregation Color coding	Treatment & Disposal
3.	White (Translucent)	Waste sharps including Metals	799.00	Puncture proof, Leak proof, tamper proof container	CBMR/SOS Karad Hospital Association

9. PP shall comply the following guidelines published by the CPCB on February-2019 regarding handling of BMW for utilization:

- HCE shall preferably handle bio-medical wastes such as pleural fluid, ascitic fluid, HBSAG positive blood, placenta etc. to the Pharmaceutical industry / Biotechnology firms for production of drugs, reagent chemicals, markers etc. if any such as Pharmaceutical industry / Biotechnology firm approaches them for the same. If there are any difficulties in this matter, the same may be communicated to such firm and copied to the Board also.
- HCE shall strictly follow the procedure for packaging & transportation of Bio-medical Wastes such as pleural fluid, ascitic fluid, HBSAG positive blood, placenta etc. to the Pharmaceutical industry / Biotechnology firms as per the guidelines of CPCB published in Feb-2019 for "Handling of BMW for utilization".
- HCEs shall submit the report to the Board office about type, quantity and frequency of handling over such BMW on yearly basis.
- Industry to enter into legal agreement with HCE's and inform the MPC Board and competent authority of State Public Health Department about such collection of BMW along with quantity and type of waste collected.
- In case of any technical difficulty towards handing over the required BMW, you shall inform to the Board accordingly.
- HCEs shall properly dispose and handover the waste to authorized user / facilities having valid consent to operate from MPCB.

10. This consent is issued subject to conditions mentioned below:

- The "Authorized Person" shall comply with provisions of the Environment (Protection) Act, 1986, and the Rules made there under.
- Any unauthorized change in equipment or working conditions as mentioned in the application by the person authorized shall constitute a breach of this Authorization.
- You shall submit details of Management and Handling of outdated, discarded, unused Cytotoxic drugs generated in the Cancer centers, research and health care in the format prescribed by CPCB which is available on www.cpcb.nic.in in quarterly Annual Report to MPCB with a copy to CCE before 31st January every year.
- You shall manage the Mercury Waste in the HCE in environmentally sound manner including storage, spillage collection, transportation and disposal as per CPCB guidelines published on CPCB website www.cpcb.nic.in dated: 07.09.2020 as detailed in document entitled "Environmentally Sound Management of Mercury Waste in Health Care Facilities".
- You shall ensure phase out of chlorinated plastic bags, gloves and shoe bags by HCEs within two years.
- You shall establish bar code system within one year.

9. You shall ensure that the liquid waste is treated and disposed by all the occupier or operator of a CBMTT in accordance with the Water Act, 1974.

10. You shall maintain day to day basis and display the monthly record including Annual report on its website within two years from the date of Notification.

11. You shall submit separate Bank Guarantees towards compliance of condition mentioned at Annexure - IV to Regional Office, within 30 days.

12. You shall submit compliance of Bank Guarantee conditions every six months to Regional Office, for verification purpose.

13. You shall submit application for renewal of Combined Consent and Biomedical Waste authorization before 120 days along with appropriate fees.

14. This Board reserves the right to revise, amend, suspend, revoke etc. this consent and the same shall be binding on the industry.

15. This consent should not be construed as exemption from obtaining necessary NOC/permission from any other Government agencies.

16. PP shall submit separate application for 100 Bed expansion.

17. PP shall not take effective steps towards expansion till Environment Clearance for expansion is obtained.

18. PP shall furnish/ extend existing Bank Guarantees as per Regime for Health Care Establishments.

19. This consent is issued pursuant to the decision of the 6th Consent Appraisal Committee Meeting held on 03.12.2021.

For and on behalf of the
Maharashtra Pollution Control Board


Anil Shingare (IAS),
Member Secretary

Received Consent fee of -

Sr.No	Amount(Rs.)	Transaction/DR.No.	Date	Transaction Type
1.	375000.00	MPCB-DR-7213	30/01/2021	RTGS
2.	400160.00	MPCB-DR-8194	07/08/2021	RTGS
3.	100000.00	MPCB-DR-9352	27/12/2021	NEFT
4.	43000.00	MPCB-DR-7214	31/03/2021	NEFT

Copy to:

- Regional Office, MPCB, Pune and Sub-Regional Office, MPCB, Satara
- They are directed to ensure the compliance of the consent conditions.
- Chief Accounts Officer, MPCB, Sion, Mumbai
- CAC-Cell, N.P.C. Board, Sion, Mumbai.

SCHEDULE-I
Terms & conditions for compliance of Water Pollution Control:

- As per your application, you have provided Effluent Treatment Plant (ETP) of designed capacity of 100 CMD consisting of Primary, Secondary & Tertiary treatment for the treatment of 40-2 CMD trade effluent generated from Hospital i.e. from Laboratory & Operation Theatre.
- The Applicant shall operate the effluent treatment plant (ETP) to treat the trade effluent so as to achieve the following standards prescribed by the Board or under EP Act, 1986 and Rules made there under from time to time, whichever is stringent.

Sr. No.	Parameters	Standards
1.	Compulsory Parameters	Limiting Concentration in mg/l, except for pH
(1)	pH	5.5 to 8.5
(2)	Oil & Grease	10 mg/l
(3)	BOD (3 days 20°C)	30 mg/l
(4)	Total Suspended Solids	100

- The treated trade effluent shall be sent to Sewage Treatment Plant (STP) followed by disinfection by Chlorination treatment. In no case, treated trade effluent shall find its way for gardening / outside hospital premises.
- As per your application, you have provided Sewage Treatment Plant of designed capacity 2 x 500 CMD with MBBR technology for the treatment of 400 CMD of sewage.
- The Applicant shall operate the sewage treatment system to treat the sewage as so to achieve the following standards.

1	pH	Not to exceed	4.5 to 9.0
2	Oil & Grease	Not to exceed	10 mg/l
3	BOD (3 days 20°C)	Not to exceed	30 mg/l
4	Total Suspended Solids	Not to exceed	50 mg/l
5	COD	Not to exceed	100 mg/l

- The treated sewage shall be recycled for secondary utility/ gardening purposes to the maximum extent and remaining shall be discharged in sewerage system provided by local body. In no case, effluent shall find its way outside hospital premises.
- The Board reserves its rights to review plans, specifications or other data relating to plant setup for the treatment of wastewater for the purification thereof & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall obtain prior consent of the Board to take steps to establish the unit or installation any treatment and disposal system or an extension or addition thereto.
- The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturer so as to ensure the compliance of standards and safety of the operation thereof.

- The Applicant shall comply with the provisions of the Effluent Prevention & Control of Pollution Act, 1974 and its amendments, by installing water meters and other provisions as contained in the said act.

Sr. No.	Purpose for water consumed	Water consumption quantity (CMD)
1.	Industrial Cooling, spraying in mine pits or boiler feed	1.00
2.	Domestic purpose	150.00
3.	Processing whereby water gets polluted & pollutants are easily biodegradable	55.50
4.	Processing whereby water gets polluted & pollutants are not easily biodegradable and are toxic	0.00
5.	Gardening	0

- The Applicant shall provide Specific Water Pollution control system as per the conditions of EP Act, 1986 and rule made there under from time to time/ Environmental Clearance/ CEE's guidelines.

SCHEDULE-II
Terms & conditions for compliance of Air Pollution Control:

- As per your application, you have provided the Air pollution control (APC) system and enclosed following stack (s) to observe the following air pattern:

Stack No.	Stack Attached To	APC System	Height in Mtrs.	Type of Fuel	Quantity of Fuel	5% SO ₂
S-1 & S-2	Steam Boiler, (300 & 300 Kg/hr)	Stack	2.9 & 2.15	HSD	58 Kg/Hr	1.00 33.00
S-3 to S-5	DG Sets (2 x 250 & 500 KW)	Acoustic Enclosure/ Silencer	3.5 & 3	HSD	380 Kg/hr	1.00 77.00

- The applicant shall provide stack height of sixty meters and maintain above mentioned air pollution control system, so as to achieve the level of pollutants to the following standards.

Total Particulate matter	Not to exceed	150 mg/m ³
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- The Applicant shall obtain necessary prior permission for providing additional control equipment with necessary specifications and operation thereof at alteration or replacement/ installation well before its the come to an end or erection of new pollution control equipment.
- The Board reserves its rights to vary all or any of the condition in the consent. If due to any technological advancement or otherwise such variation (including the change of any control equipment, other in whole or in part is necessary).
- Conditions for D.G. Set
- Noise from the D.G. Set should be controlled by providing an acoustic enclosure or by treating the noise acoustically.

- Industry should provide acoustic enclosure for control of noise. The acoustic enclosure/ acoustic treatment of the room should be designed for minimum 25 db (A) insertion loss or for meeting the ambient noise standards, whichever is an higher side. A suitable exhaust muffler with insertion loss of 25 db (A) shall also be provided. The measurement of insertion loss will be done at different points at 0.5 meters from acoustic enclosure/room and then average.
- Industry should make efforts to bring down noise level due to DG set, outside industrial premises, within ambient noise requirements for proper siting and control measures.
- Installation of DG Set must be strictly in compliance with recommendations of DG Set manufacturer.
- A proper routine and preventive maintenance procedure for DG set should be set and followed in consultation with the DG manufacturer which would help to prevent noise levels of DG set from deteriorating with use.
- D.G. Set shall be operated only in case of power failure.
- The applicant should not cause any nuisance in the surrounding area due to operation of D.G. Set.
- The applicant shall comply with the notification of MoEF dated 17.05.2002 regarding noise limit for generator sets run with diesel.

SCHEDULE-III
Details of Bank Guarantee:

Sr. No.	Consent (C2/C3/C4/C5)	Amount of BG Imposed	Submission Period	Purpose of BG	Compliance Period	Validity Date
1.	NA	NA	NA	NA	NA	NA

The above Bank Guarantee(s) shall be submitted by the applicant in favour of Regional Officer at the respective Regional Office within 15 days of the date of issue of Consent. A Existing BG obtained for above purpose if any may be extended for period of validity as above.

Statement of conditions to be complied and Bank Guarantee imposed to ensure timely compliance to be observed by:

Sr. No.	Activity / Condition to be Complied	Compliance Timeline (Months)	Bank Guarantee Amount
1A.	Operation and Maintenance		
1	To Segregate and Handle BFW as per Rule	Continuous	100000
2	Towards Operation and Maintenance of STP/ETP to achieve prescribed discharge standards.	Continuous	100000
1B.	Records		
1	To Maintain records of BFW and submission of Annual Report in Form-II before 31st January	Continuous	75000
2	To maintain records of BFW material delivered to CERNETSDP	Continuous	25000

Sr. No.	Activity / Condition to be Complied	Compliance Timeline (Months)	Bank Guarantee Amount
2.	Performance		
1	To provide BFW separate storage facility as per guidelines of CPCB	Continuous	75000
2	Installation of OCEPS to Incinerator with connectivity to Board's Server		50000

BG Forfeiture History

Sr. No.	Consent (C2/C3/C4/C5)	Amount of BG Imposed	Submission Period	Purpose of BG	Amount of BG Forfeiture	Reason of BG Forfeiture
1.	NA	NA	NA	NA	NA	NA

BG Return details

Sr. No.	Consent (C2/C3/C4/C5)	BG Imposed	Purpose of BG	Amount of BG Returned
1.	NA	NA	NA	NA

SCHEDULE-IV

- You shall provide facility for collection of environmental samples and samples of trade and process effluents, or emissions and hazardous waste to the Board staff at the terminal or designated points and shall pay to the Board for the services rendered in this behalf.
- You should monitor effluent quality, stack emissions, noise and ambient air quality quarterly.
- You shall provide ports in the chimney(s) and facilities such as ladder, platform etc. for monitoring the air emissions and the same shall be open for inspection found for use of the Board's Staff. The chimney(s) vents attached to various sources of emission shall be designated by numbers such as S-1, S-2, etc. and these shall be posted/ displayed to facilitate identification.
- Whenever due to any accident or other unforeseen act or event, such emissions occur or is apprehended to occur in excess of standards laid down, such information shall be forthwith reported to Board, concerned Police Station, office of Directorate of Health Services, Department of Explosives, Inspectorate of Factories and Local Body. In case of failure of pollution control equipments, the production process connected to it shall be stopped.
- You shall provide an alternate electric power source sufficient to operate all pollution control facilities installed to maintain compliance with the terms and conditions of the consent. In the absence, the applicant shall stop, reduce or otherwise, control production to abide by terms and conditions of this consent.
- You shall submit, the Environmental Statement Report for the financial year ending 31st March in the prescribed Form-V as per the provisions of rule 14 of the Environment (Protection) (Second Amendment) Rules, 1982 to Regional Office, on the 10th day of September every year.

2. You shall recycle/process/reuse/recover Hazardous Waste as per the provision contain in the HW (MHA) Rules 2008, which can be recycled/processed/reused/recovered and only waste which has to be incinerated shall go to incineration and waste which can be used for land filling and cannot be recycled/processed etc should go for that purpose, in order to reduce load on incineration and landfill infrastructure.
3. You shall comply with the Hazardous Waste (H, H & TH) Rules, 2008 and submit the Annual Returns to RO- as per Rule 5(8) & 2(2)(i) of Hazardous Waste (H, H & TH) Rules, 2008 for the preceding year April to March in Form-IV by 30th June of every year.
4. An inspection book shall be opened and made available to the Board's officers during their visit to the HCE.
5. You shall strictly comply with the Water (MGP) Act, 1974, Air (MGP) Act, 1981 and Environmental Protection Act, 1986 and industry specific standard under EP Rules 1986 which are available on MPCB website (www.mpcb.gov.in).
6. You shall constitute an Environmental cell with qualified staff/personnel to see the day to day compliance of consent & authorization condition towards Environment Protection.
7. Separate drainage system shall be provided for collection of trade and sewage effluents. Terminal manholes shall be provided at the end of the collection system with arrangement for measuring the flow. No effluent shall be admitted in the pipe/line downstream of the terminal manholes. No effluent shall flow in any way other than in designed and provided collection system.
8. Neither storm water nor discharge from other premises shall be allowed to mix with the effluents from the HCE.
9. You shall install a separate meter showing the consumption of energy for operation of domestic and industrial effluent treatment plants and air pollution control system. A register showing consumption of electricity (kwh) for treatment shall be maintained.
10. You should not cause any nuisance in surrounding area.
11. You shall take adequate measures for control of noise levels from its own sources within the premises so as to maintain ambient air quality standard in respect of noise is less than 75 dB (A) during day time and 70 dB (A) during night time. Day time is reckoned between 6 a.m. and 10 p.m. and night time is reckoned between 10 p.m. and 6 a.m.
12. You shall maintain good housekeeping.
13. You shall bring minimum 35% of the available open land under green coverage/ plantation. The applicant shall submit a yearly statement to Regional Office by 30th September every year on available open plot area, number of trees surviving as on 31st March of the year and number of trees planted by September end.
14. The non-hazardous solid waste arising in the factory premises, sweepings, etc. be disposed off scientifically so as not to cause any nuisance / pollution. The applicant shall take necessary permissions from local authorities for disposal of solid waste.
15. You shall not change or alter the quantity, quality, the rate of discharge, temperature or the mode of the effluent/effluents or hazardous wastes or control equipments provided for without previous written permission of the Board. You will not carry out any activity, for which this consent has not been granted without prior consent of the Board.
16. You shall submit Six Monthly statement in respect of obligation towards consent and pollution control compliance's duly supported with documentary evidences (format can be downloaded from MPCB office site).

22. You shall submit official e-mail address and any change will be duly informed to the MPCB, forthwith.
23. You shall achieve the National Ambient Air Quality standards prescribed vide Government of India, Notification dt. 16.11.2009 as amended.
24. You shall observe provisions of e-waste (Management and Handling) Rules 2011 and Battery Waste Management and Handling Rules 2011, as amended.

For and on behalf of the
Maharashtra Pollution Control
Board.


(Rajesh Shingere IAS)
Member Secretary

Annexure V : 3rd Party Reports for Trade & Domestic Effluents (New STP)

saenco CH - JAWAHAR NAGAR

TEST REPORT

Customer Name & Address: Jawahar Institute of Medical Sciences, P.O. Narasimha Puram

Order No.: 1009/22/12/19/100 Date of Sampling: 12/07/2022
 Test Ref No.: Test Report Sampling Method: SPM/STP/100
 Collection By: Test Report Date of Analysis: 12/07/2022
 Sample Received: Test Report Sampling Location: STP (Sewerage)
 Sample Qty: 1 L Packaging Material: Polyethylene Bagged
 Report No.: 1009/22/12/19/100 Date of Report: 12/07/2022

No.	Parameters	Result	Unit	Standard Value	Analysis Method
1	pH	7.22	pH	6.5-8.5	SPM/STP/100
2	Total Suspended Solids	140	mg/L	<50	SPM/STP/100
3	Chemical Oxygen Demand	40	mg/L	<100	SPM/STP/100
4	Biochemical Oxygen Demand at 20°C for 5 days	10	mg/L	<100	SPM/STP/100
5	Total Hardness	150	mg/L	<100	SPM/STP/100

Remarks: Above results are within SPM/STP/100 Standard Limits.

Note:
 1. Test conducted only on sample received.
 2. Test conducted only on sample received.
 3. Test conducted only on sample received.
 4. Test conducted only on sample received.
 5. Test conducted only on sample received.

For S.A. Signature: [Signature]
 Mr. Anand Kumar Reddy - Technical Manager
 Authorised Signatory

END OF REPORT

saenco CH - JAWAHAR NAGAR

TEST REPORT

Customer Name & Address: Jawahar Institute of Medical Sciences, P.O. Narasimha Puram

Order No.: 1009/22/12/19/100 Date of Sampling: 12/07/2022
 Test Ref No.: Test Report Sampling Method: SPM/STP/100
 Collection By: Test Report Date of Analysis: 12/07/2022
 Sample Received: Test Report Sampling Location: STP (Sewerage)
 Sample Qty: 1 L Packaging Material: Polyethylene Bagged
 Report No.: 1009/22/12/19/100 Date of Report: 12/07/2022

No.	Parameters	Result	Unit	Standard Value	Analysis Method
1	pH	7.22	pH	6.5-8.5	SPM/STP/100
2	Total Suspended Solids	140	mg/L	<50	SPM/STP/100
3	Chemical Oxygen Demand	40	mg/L	<100	SPM/STP/100
4	Biochemical Oxygen Demand at 20°C for 5 days	10	mg/L	<100	SPM/STP/100
5	Total Hardness	150	mg/L	<100	SPM/STP/100

Remarks: Above results are within SPM/STP/100 Standard Limits.

Note:
 1. Test conducted only on sample received.
 2. Test conducted only on sample received.
 3. Test conducted only on sample received.
 4. Test conducted only on sample received.
 5. Test conducted only on sample received.

For S.A. Signature: [Signature]
 Mr. Anand Kumar Reddy - Technical Manager
 Authorised Signatory

END OF REPORT

saenco CH - JAWAHAR NAGAR

TEST REPORT

Customer Name & Address: Jawahar Institute of Medical Sciences, P.O. Narasimha Puram

Order No.: 1009/22/12/19/100 Date of Sampling: 12/07/2022
 Test Ref No.: Test Report Sampling Method: SPM/STP/100
 Collection By: Test Report Date of Analysis: 12/07/2022
 Sample Received: Test Report Sampling Location: STP (Sewerage)
 Sample Qty: 1 L Packaging Material: Polyethylene Bagged
 Report No.: 1009/22/12/19/100 Date of Report: 12/07/2022

No.	Parameters	Result	Unit	Standard Value	Analysis Method
1	pH	7.22	pH	6.5-8.5	SPM/STP/100
2	Total Suspended Solids	140	mg/L	<50	SPM/STP/100
3	Chemical Oxygen Demand	40	mg/L	<100	SPM/STP/100
4	Biochemical Oxygen Demand at 20°C for 5 days	10	mg/L	<100	SPM/STP/100
5	Total Hardness	150	mg/L	<100	SPM/STP/100

Remarks: Above results are within SPM/STP/100 Standard Limits.

Note:
 1. Test conducted only on sample received.
 2. Test conducted only on sample received.
 3. Test conducted only on sample received.
 4. Test conducted only on sample received.
 5. Test conducted only on sample received.

For S.A. Signature: [Signature]
 Mr. Anand Kumar Reddy - Technical Manager
 Authorised Signatory

END OF REPORT

saenco CH - JAWAHAR NAGAR

TEST REPORT

Customer Name & Address: Jawahar Institute of Medical Sciences, P.O. Narasimha Puram

Order No.: 1009/22/12/19/100 Date of Sampling: 12/07/2022
 Test Ref No.: Test Report Sampling Method: SPM/STP/100
 Collection By: Test Report Date of Analysis: 12/07/2022
 Sample Received: Test Report Sampling Location: STP (Sewerage)
 Sample Qty: 1 L Packaging Material: Polyethylene Bagged
 Report No.: 1009/22/12/19/100 Date of Report: 12/07/2022

No.	Parameters	Result	Unit	Standard Value	Analysis Method
1	pH	7.22	pH	6.5-8.5	SPM/STP/100
2	Total Suspended Solids	140	mg/L	<50	SPM/STP/100
3	Chemical Oxygen Demand	40	mg/L	<100	SPM/STP/100
4	Biochemical Oxygen Demand at 20°C for 5 days	10	mg/L	<100	SPM/STP/100
5	Total Hardness	150	mg/L	<100	SPM/STP/100

Remarks: Above results are within SPM/STP/100 Standard Limits.

Note:
 1. Test conducted only on sample received.
 2. Test conducted only on sample received.
 3. Test conducted only on sample received.
 4. Test conducted only on sample received.
 5. Test conducted only on sample received.

For S.A. Signature: [Signature]
 Mr. Anand Kumar Reddy - Technical Manager
 Authorised Signatory

END OF REPORT

Annexure V : 3rd Prty Reports for WTP Outlet

saenco

DR: V40200000170716000

TEST REPORT

Customer Name & Address		Kerala Institute of Medical Sciences T-5, Kariakulam, Thrissur	
Invoice No.	SAS/20-22/114-07	Date of Sampling	11.07.2022
Test Request	Test Request	Sampling Method	SA/CO/DP/IS-01
Collected By	Customer	Date of Report	11.07.2022
Sample Name	Water	Sampling Location	WTP Outlet
Sample Qty	2.5 L	Shipping Material	Non Corrosive Plastic Can
Report No.	SAS/20-22/114-07	Date of Report	11.07.2022

No.	Parameters	Result	Unit	Standard Value	Analysis Method
1	pH	7.47	pH Unit	6.5-8.5	APHA 8200 B
2	Calcium (Ca)	100.0	mg/L	100	APHA 8200 B
3	Total Alkalinity (as CaCO ₃)	12.0	mg/L	120	APHA 8200 B
4	Total Hardness (as CaCO ₃)	12.0	mg/L	120	APHA 8200 B
5	Chloride (as Cl)	1.0	mg/L	1.0	APHA 8200 B
6	Sulfate (as SO ₄)	0.0	mg/L	0.0	APHA 8200 B
7	Calcium Hardness (as CaCO ₃)	12.0	mg/L	120	APHA 8200 B
8	Non-Carbonate Hardness (as CaCO ₃)	0.0	mg/L	0.0	APHA 8200 B
9	Total Solids (TSS)	0.0	mg/L	0.0	APHA 8200 B
10	Total Chloride	1.0	mg/L	1.0	APHA 8200 B
11	Total Sulfate	0.0	mg/L	0.0	APHA 8200 B

Remarks: Based on above parameters water is potable.

Note:

1. Test results valid for 30 days only.
2. Parameters tested only for the above test.
3. Results are subject to change if the sample is not analyzed within 30 days.
4. The sample of the report should be analyzed within 30 days of collection. After 30 days the results may vary.
5. The sample of the report should be analyzed within 30 days of collection. After 30 days the results may vary.

For SA/CO/DP/IS-01

Dr. Anand Kumar - Technical Manager
Authorized Signature

11.07.2022



saenco

DR: V40200000170716000

TEST REPORT

Customer Name & Address		Kerala Institute of Medical Sciences T-5, Kariakulam, Thrissur	
Invoice No.	SAS/20-22/114-07	Date of Sampling	11.07.2022
Test Request	Test Request	Sampling Method	SA/CO/DP/IS-01
Collected By	Customer	Date of Report	11.07.2022
Sample Name	Water	Sampling Location	WTP Outlet
Sample Qty	2.5 L	Shipping Material	Non Corrosive Plastic Can
Report No.	SAS/20-22/114-07	Date of Report	11.07.2022

No.	Parameters	Result	Unit	Standard Value	Analysis Method
1	pH	7.47	pH Unit	6.5-8.5	APHA 8200 B
2	Calcium (Ca)	100.0	mg/L	100	APHA 8200 B
3	Total Alkalinity (as CaCO ₃)	12.0	mg/L	120	APHA 8200 B
4	Total Hardness (as CaCO ₃)	12.0	mg/L	120	APHA 8200 B
5	Chloride (as Cl)	1.0	mg/L	1.0	APHA 8200 B
6	Sulfate (as SO ₄)	0.0	mg/L	0.0	APHA 8200 B
7	Calcium Hardness (as CaCO ₃)	12.0	mg/L	120	APHA 8200 B
8	Non-Carbonate Hardness (as CaCO ₃)	0.0	mg/L	0.0	APHA 8200 B
9	Total Solids (TSS)	0.0	mg/L	0.0	APHA 8200 B
10	Total Chloride	1.0	mg/L	1.0	APHA 8200 B
11	Total Sulfate	0.0	mg/L	0.0	APHA 8200 B

Remarks: Based on above parameters water is potable.

Note:

1. Test results valid for 30 days only.
2. Parameters tested only for the above test.
3. Results are subject to change if the sample is not analyzed within 30 days.
4. The sample of the report should be analyzed within 30 days of collection. After 30 days the results may vary.
5. The sample of the report should be analyzed within 30 days of collection. After 30 days the results may vary.

For SA/CO/DP/IS-01

Dr. Anand Kumar - Technical Manager
Authorized Signature

11.07.2022



saenco

DR: V40200000170716000

TEST REPORT

Customer Name & Address		Kerala Institute of Medical Sciences T-5, Kariakulam, Thrissur	
Invoice No.	SAS/20-22/114-07	Date of Sampling	11.07.2022
Test Request	Test Request	Sampling Method	SA/CO/DP/IS-01
Collected By	Customer	Date of Report	11.07.2022
Sample Name	Water	Sampling Location	WTP Outlet
Sample Qty	2.5 L	Shipping Material	Non Corrosive Plastic Can
Report No.	SAS/20-22/114-07	Date of Report	11.07.2022

No.	Parameters	Result	Unit	Standard Value	Analysis Method
1	pH	7.47	pH Unit	6.5-8.5	APHA 8200 B
2	Calcium (Ca)	100.0	mg/L	100	APHA 8200 B
3	Total Alkalinity (as CaCO ₃)	12.0	mg/L	120	APHA 8200 B
4	Total Hardness (as CaCO ₃)	12.0	mg/L	120	APHA 8200 B
5	Chloride (as Cl)	1.0	mg/L	1.0	APHA 8200 B
6	Sulfate (as SO ₄)	0.0	mg/L	0.0	APHA 8200 B
7	Calcium Hardness (as CaCO ₃)	12.0	mg/L	120	APHA 8200 B
8	Non-Carbonate Hardness (as CaCO ₃)	0.0	mg/L	0.0	APHA 8200 B
9	Total Solids (TSS)	0.0	mg/L	0.0	APHA 8200 B
10	Total Chloride	1.0	mg/L	1.0	APHA 8200 B
11	Total Sulfate	0.0	mg/L	0.0	APHA 8200 B

Remarks: Based on above parameters water is potable.

Note:

1. Test results valid for 30 days only.
2. Parameters tested only for the above test.
3. Results are subject to change if the sample is not analyzed within 30 days.
4. The sample of the report should be analyzed within 30 days of collection. After 30 days the results may vary.
5. The sample of the report should be analyzed within 30 days of collection. After 30 days the results may vary.

For SA/CO/DP/IS-01

Dr. Anand Kumar - Technical Manager
Authorized Signature

11.07.2022



Annexure V : 3rd Prty Reports for ETP Outlet



CN 074029262 (REV) 15/09

TEST REPORT

Customer Name & Address	Windows Institute of Medical Sciences Tst. No. 10, Dst. Subot
------------------------------------	---

Forward No. : SAIN/22-23/178-000 Forward Ref No. : T101 Test Result Collected By : S. K. Saini Sample Name : Urine Water Sample Qty : 1 L Report No. : SAIN/22-23/178/14-01	Date of Receipt : 06/08/2022 Analyzing Method : 33459 (22/05/21) Date of Analysis : 09/08/2022 Sampling Location : CTP Outlet Particulars/Method : More Chemicals and Nitrite On Date of Report : 17/08/2022
--	---

Sr. No	Parameters	Result	Unit	Standard Value	Analytical Method
1	pH	7.58	pH Unit	5.5-8.5	APHA 8090-B
2	Total Dissolved Solids	1239	mg/l	< 100	APHA 8540-D
3	Hardness of Copper Distilled at 27°C for 3 Days	34.74	mg/l	< 30	IS 3482 (Part 1) 2019
4	Oil And Grease	1.00	mg/l	< 10	IS 3482 (Part 1) 2019

Remarks: Above results are within MPC/L General Limits.

Notes:

- Test Results are strictly in-house result.
- Test result marked with * means in SAIN, S.A.
- SAIN will Report the results after 10 days from the date of the Report.
- These results of Test Report shall not be responsible for advertising or legal or report or other various purposes.
- Customer's Complainted by NABQ (COP) Institution No. 108 (S.A.) 10/03/2021 is report marked.

For S.A. Bains Private Limited



Authorised Signatory



Authorised Representative - Technical Manager

Authorised Signatory

END OF REPORT

[illegible]



ON: 15/02/2023 17:04:02

TEST REPORT

Customer Name & Address: British Columbia Electrical Society Tel. 604.681.1644	
Invoice No. : SAEN/22-02/PJ/0001	Date of Receipt : 13.04.2022
Your Ref No. : Test Request	Issuing Method : SAEN/00000000
Collected By : Customer	Date of Analysis : 04.06.2022
Sample Name : Utility Water	Issuing Location : LTD Office
Sample Qty. : 1 L	Packaging Material : Non-Commercial Sample Bag
Report No. : SAEN/22-02/PJ/0001-00	Size of Report : 10.000.000

In. No	Parameters	Result	Unit	Standard Value	Analysis Method
1	PH	7.08	ph Units	6.5-8.5	APHA 8150-B-19
2	Total Suspended Solids	16.25	mg/L	< 10.0	APHA 8150-D-19
3	Calcium Chloride Demand at 20°C for 30 mins	22.83	mg/L	< 30	APHA 8150-F-19 2005-8150-F
4	Calcium Chloride	2.00	mg/L	< 10	2005-8150-B

Remarks: Significant results are shown within MPDCL Current Limits.

Note:

1. Test Participation along the sample event.
2. Parameter values are in mg/L unless otherwise stated.
3. For all test results, please refer to the SAEN/22-02/PJ/0001-00 report.
4. The test results are for the sample only. The test results are for the sample only. The test results are for the sample only.
5. The test results are for the sample only. The test results are for the sample only. The test results are for the sample only.

For & Sales Representative

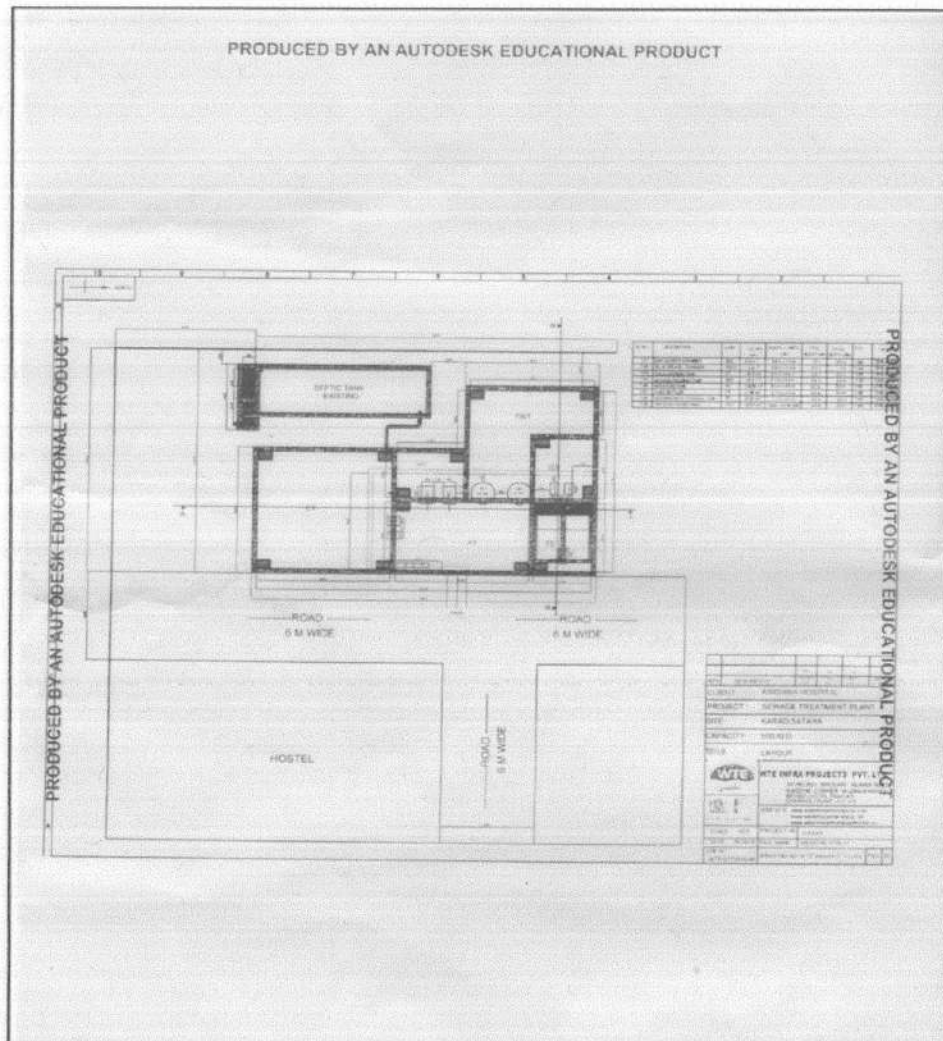
Mr. Asmit Kumar, Sales Representative
 Authorized Signatory





END OF REPORT

Annexure VI : Schematic diagram of STP



Annexure VII : Documents related to Protocol, Check points, recruitment of staff for Housekeeping

Krishna Institute of Medical Sciences "Deemed to be University", Karad

JOB PROFILE OF HOUSEKEEPING SUPERVISOR (Day Shift)

- 1) Housekeeping Supervisor has to wear proper uniform, staff ID card and shoes while on duty.
- 2) Has to take attendance at the start of each shift.
- 3) Handle staff grooming.
- 4) Ensure shift management is handled properly and to co-ordinate nursing staff while on duty.
- 5) To ensure that housekeeping staffs wear the correct uniform and Staff ID card all times while on duty.
- 7) Support administrative and management tasks
- 8) Ensure that the Housekeeping staff is working in accordance to the hospital's rules.
- 9) Make sure that the appearance of the hospital is clean and tidy
- 10) Maintain constant awareness of the cleanliness of the hospital.
- 11) Responsible for maintaining inventory of cleaning supplies and providing cleaning material Through Housekeeping Dept. Store.
- 12) Oversee Housekeeping staff to ensure that they are properly and safely attired
- 13) Monitor check and maintain standards of cleanliness within all areas of the hospital on every shift basis.
- 14) To audit self-check cleaning sheets daily.
- 15) To maintain a professional and helpful attitude while on duty towards patients.
- 16) Support all concern departments
- 17) Ensure every Incident report should be reported in written.
- 18) Class IV Leave Management.
- 19) Incident reporting to AR, LWO and AO on a daily Basis
- 20) Handling disciplinary issues.
- 21) Ensuring compliance to ISO, NABH, NABL and NAAC audits and documentation.
- 22) Monthly training of all class IV staff.
- 23) Daily briefing and de-briefing of class IV staff.
- 24) Handling nursing requests to the best possible resource availability.
- 25) Exception handling to be done in a fair and just manner.
- 26) Maintaining log book for clear and timely communicate with AO, HSK supervisor and clerk.
- 27) Ensuring materials availability in housekeeping stores.
- 28) Reporting and maintenance or repaired to housekeeping equipments.
- 29) Weekly requisitioning of required material from stores.
- 30) Ensuring timely shifting of man and material during inspections.
- 31) Maintaining the housekeeping standards in the entire hospital.
- 32) Ensuring strict adherence to the code of conduct from all subordinates.
- 33) Shifting of class IV employees as the dynamic at work.
- 34) Handling and resolving complaints related to housekeeping.
- 35) Handling and resolving behavioral complaint of housekeeping at all times.
- 36) Monthly housekeeping NABH adherence report to be submitted to AO.
- 37) Show-cause notice to be issued for misbehavior and disciplinary issues.
- 38) Performance monitoring of all subordinate staff.
- 39) Compliance with requests from MD, MA, AR and AO office.
- 40) Ensuring adherence to daily, week and monthly reporting.
- 41) On duty Supervisor cannot leave hospital premises without prior permission of HSK HOD, AO and Assistant Registrar

Mr. Dhananjay D. Patil
Sanitary Inspector.

Krishna Institute of Medical Sciences "Deemed to be University", Karad

JOB PROFILE OF HOUSEKEEPING SUPERVISOR (Evening Shift)

- 1) Housekeeping Supervisor has to wear proper uniform, staff ID card and shoes while on duty.
- 2) Has to take attendance at the start of each shift.
- 3) Handle staff grooming.
- 4) Ensure shift management is handled properly and to co-ordinate nursing staff while on duty.
- 5) To ensure that housekeeping staffs wear the correct uniform and Staff ID card all times while on duty.
- 7) Support administrative and management tasks
- 8) Ensure that the Housekeeping staff is working in accordance to the hospital's rules.
- 9) Make sure that the appearance of the hospital is clean and tidy
- 10) Maintain constant awareness of the cleanliness of the hospital.
- 11) Responsible for maintaining inventory of cleaning supplies and providing cleaning material Through Housekeeping Dept. Store.
- 12) Oversee Housekeeping staff to ensure that they are properly and safely attired
- 13) Monitor check and maintain standards of cleanliness within all areas of the hospital on every shift basis.
- 14) To audit self-check cleaning sheets daily.
- 15) To maintain a professional and helpful attitude while on duty towards patients.
- 16) Support all concern departments
- 17) Ensure every incident report should be reported in written.
- 18) Class IV Leave Management.
- 19) Incident reporting to AR, LWO and AO on a daily Basis
- 20) Handling disciplinary Issues.
- 21) Ensuring compliance to ISO, NABH, NABL and NAAC audits and documentation.
- 22) Monthly training of all class IV staff.
- 23) Daily briefing and de-briefing of class IV staff.
- 24) Handling nursing requests to the best possible resource availability.
- 25) Exception handling to be done in a fair and just manner.
- 26) Maintaining log book for clear and timely communicate with AO, HSK supervisor and clerk.
- 27) Ensuring materials availability in housekeeping stores.
- 28) Reporting and maintenance or repaired to housekeeping equipments.
- 29) Weekly requisitioning of required material from stores.
- 30) Ensuring timely shifting of man and material during inspections.
- 31) Maintaining the housekeeping standards in the entire hospital.
- 32) Ensuring strict adherence to the code of conduct from all subordinates.
- 33) Shifting of class IV employees as the dynamic at work.
- 34) Handling and resolving complaints related to housekeeping.
- 35) Handling and resolving behavioral complaint of housekeeping at all times.
- 36) Monthly housekeeping NABH adherence report to be submitted to AO.
- 37) Show-cause notice to be issued for misbehavior and disciplinary issues.
- 38) Performance monitoring of all subordinate staff.
- 39) Compliance with requests from MD, MA, AR and AO office.
- 40) Ensuring adherence to daily, week and monthly reporting.
- 41) On duty Supervisor cannot leave hospital premises without prior permission of HSK HOD, AO and Assistant Registrar
- 42) He/ She has to ensure no class IV employee sleep during night shift.

Mr. Dhananjay D. Patil.
Sanitary Inspector.

Krishna Institute of Medical Sciences "Deemed to be University", Karad

JOB PROFILE OF HOUSEKEEPING SUPERVISOR (Night Shift)

- 1) Housekeeping Supervisor has to wear proper uniform, staff ID card and shoes while on duty.
- 2) Has to take attendance at the start of each shift.
- 3) Handle staff grooming.
- 4) Ensure shift management is handled properly and to co-ordinate nursing staff while on duty.
- 5) To ensure that housekeeping staffs wear the correct uniform and Staff ID card all times while on duty.
- 7) Support administrative and management tasks
- 8) Ensure that the Housekeeping staff is working in accordance to the hospital's rules.
- 9) Make sure that the appearance of the hospital is clean and tidy
- 10) Maintain constant awareness of the cleanliness of the hospital.
- 11) Responsible for maintaining inventory of cleaning supplies and providing cleaning material Through Housekeeping Dept. Store.
- 12) Oversee Housekeeping staff to ensure that they are properly and safely attired
- 13) Monitor check and maintain standards of cleanliness within all areas of the hospital on every shift basis.
- 14) To audit self-check cleaning sheets daily.
- 15) To maintain a professional and helpful attitude while on duty towards patients.
- 16) Support all concern departments
- 17) Ensure every incident report should be reported in written.
- 18) Class IV Leave Management.
- 19) Incident reporting to AR, LWO and AO on a daily Basis
- 20) Handling disciplinary issues.
- 21) Ensuring compliance to ISO, NABH, NABL and NAAC audits and documentation.
- 22) Monthly training of all class IV staff.
- 23) Daily briefing and de-briefing of class IV staff.
- 24) Handling nursing requests to the best possible resource availability.
- 25) Exception handling to be done in a fair and just manner.
- 26) Maintaining log book for clear and timely communicate with AO, HSK supervisor and clerk.
- 27) Ensuring materials availability in housekeeping stores.
- 28) Reporting and maintenance or repaired to housekeeping equipments.
- 29) Weekly requisitioning of required material from stores.
- 30) Ensuring timely shifting of man and material during inspections.
- 31) Maintaining the housekeeping standards in the entire hospital.
- 32) Ensuring strict adherence to the code of conduct from all subordinates.
- 33) Shifting of class IV employees as the dynamic at work.
- 34) Handling and resolving complaints related to housekeeping.
- 35) Handling and resolving behavioral complaint of housekeeping at all times.
- 36) Monthly housekeeping NABH adherence report to be submitted to AO.
- 37) Show-cause notice to be issued for misbehavior and disciplinary issues.
- 38) Performance monitoring of all subordinate staff.
- 39) Compliance with requests from MD, MA, AR and AO office.
- 40) Ensuring adherence to daily, week and monthly reporting.
- 41) On duty Supervisor cannot leave hospital premises without prior permission of HSK HOD, AO and Assistant Registrar
- 42) Night Supervisor has to take round with Security Supervisor and Night Nursing Supervisor.
- 43) He/ She has to ensure no class IV employee sleep during night shift.

Mr. Dhananjay D. Patil.
Sanitary Inspector.

- हाऊसकीपींग सुपरवायझर यांनी ल्युटींग येतना युनिफॉर्म , ओळखपत्र व बट घालणे आवश्यक आहे.
- हाऊसकीपींग कर्मचाऱ्यांनी ल्युटींग असताना युनिफॉर्म , ओळखपत्र घातले आहे का नाही ते पाहणे.
- हाऊसकीपींग कर्मचाऱ्यांनी ल्युटींग असताना नोटबेकपणा (केस, दाढी, पॅजप, बांगड्या, अंगठ्या) पाहणे.
- कर्मचारी काम करत असताना हॉस्पिटलच्या नियमांचे पालन करत आहेत का नाही पाहणे.
- प्रत्येक शिफ्ट मध्ये पूर्ण हॉस्पिटल मध्ये स्वच्छता योग्यरीत्या झालेली आहे का नाही हे चेक करणे.
- प्रत्येक शिफ्ट मध्ये टॉयलेट क्लीनिंग शिट मध्ये टीक करून राखी करणे.
- प्रत्येक घडलेल्या अपघात (ट्रिपिडेंट) हा लेखी स्वरूपात देणे
- कर्मचाऱ्यांच्या सुट्टीचे निगोजन करणे.
- गैरवर्तन आणि कामातील हलकपत्री / बॅथिलपणा या समस्यांसाठी कारणे दाखवा नोटीस बजाविणे
सुपरवायझर ल्युटी करत असताना विभागप्रमुख, प्रशासकीय अधिकारी यांच्या पूर्व परवानगीशिवाय हॉस्पिटल चा परिसर सोडून जाऊ नये.
- आठवडावातून प्रत्येकी एक वेळेत आपल्या ल्युटी मध्ये कर्मचाऱ्यांची वॉर्ड मधील ओवर ब्रुक चेक करणे
- प्रत्येक रॉन्वारी ८ - ५ शिफ्ट मधील कर्मचाऱ्यांना भेऊन हॉस्पिटलच्या बाहेरील परिसर स्वच्छ करून त्याचे फोटो Whatsapp Group वर टाकणे.
- प्रत्येक शिफ्ट मधील गैरहजेरी कालजीपूर्वक व न चुकता काढणे.
- एखादा कर्मचारी सतत ५ दिवस गैरहजर असेल तर त्याचा लेखी रिपोर्ट प्रत्येक ५ व्या दिवशीच्या शिफ्ट सुपरवायझरने करणे बंधनकारक आहे
- इव्हनिंग शिफ्ट सुपरवायझर यांची रात्री ११ वाजले नंतर ल्युटी संपवून घरी वारीत.

Activities	General	Morning	Evening	Night	Total					
All Outpatients & OPD	324	0	0	0	324					
	Male	Female	Male	Female	Male	Female				
	71	11	0	0	0	0	71	11		
All College Students	357	0	15	4	376					
	Male	Female	Male	Female	Male	Female	Male	Female		
	357	0	0	3	20	1	3	213	73	
Patient Care	0	0	0	71	71					
	Male	Female	Male	Female	Male	Female	Male	Female		
	0	0	0	18	53	27	45	26	140	89
Signatories	0	0	0	0	0					
	Male	Female	Male	Female	Male	Female	Male	Female		
	0	0	0	0	0	0	0	0	0	0
Grand Total	283	82	64	33	39	47	47	29	453	191
	365	97	106	76	644					

	KIMSOU	Doc Number	KIMSOU / MAIN/OPD/X	Issue Date	21/12/2013
		Rev No	0.0	Issue No	
Name of the Document		Water Tank Cleaning Calendar			
Name of Process / Area		Civil / Maintenance			

Water Tank No.	Name of water tank	Date	Mark	Date	Mark	Date	Mark
1	Main water tank	20/11/2013	✓	01/12/2013	✓	10/12/2013	✓
2	L.H.R. Hostel-I	21/11/2013	✓	04/12/2013	✓	12/12/2013	✓
3	B.D.S. Hostel-III	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
4	NRI Hostel	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
5	B.Sc. Nursing IV	24/11/2013	✓	04/12/2013	✓	12/12/2013	✓
6	B.Sc. Nursing V	24/11/2013	✓	04/12/2013	✓	12/12/2013	✓
7	B.Sc. Nursing VI	24/11/2013	✓	04/12/2013	✓	12/12/2013	✓
8	New B.D. Hostel-D2	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
9	NFW Ladies Hostel	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
10	OLD Ladies Hostel	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
11	New Guest House	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
12	Old Guest House	24/11/2013	✓	04/12/2013	✓	12/12/2013	✓
13	A-Type Quarter	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
14	B-Wing-1 Quarter	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
15	B-Wing-2 Quarter	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
16	D-TYPE Quarter	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
17	E-TYPE Quarter	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
18	Physiotherapy College	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
19	Dental College	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
20	Nursing Hostel-02	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
21	Nursing College	24/11/2013	✓	04/12/2013	✓	12/12/2013	✓
22	Gym	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
23	Cafeteria	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
24	Medical College	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
25	WARD NO. 7	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
26	WARD NO. 8	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
27	WARD NO. 9	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
28	WARD NO. 10	24/11/2013	✓	04/12/2013	✓	12/12/2013	✓
29	WARD NO. 11	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
30	WARD NO. 12	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
31	WARD NO. 13	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
32	WARD NO. 14	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
33	WARD NO. 15	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
34	WARD NO. 16	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
35	WARD NO. 17	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
36	WARD NO. 18	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
37	WARD NO. 19	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
38	WARD NO. 20	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
39	WARD NO. 21	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
40	WARD NO. 22	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
41	WARD NO. 23	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
42	WARD NO. 24	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
43	WARD NO. 25	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
44	WARD NO. 26	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
45	WARD NO. 27	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
46	WARD NO. 28	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
47	WARD NO. 29	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
48	WARD NO. 30	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
49	WARD NO. 31	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
50	WARD NO. 32	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
51	WARD NO. 33	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
52	WARD NO. 34	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
53	WARD NO. 35	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
54	WARD NO. 36	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
55	WARD NO. 37	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
56	WARD NO. 38	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
57	WARD NO. 39	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
58	WARD NO. 40	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
59	WARD NO. 41	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
60	WARD NO. 42	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
61	WARD NO. 43	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
62	WARD NO. 44	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
63	WARD NO. 45	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
64	WARD NO. 46	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
65	WARD NO. 47	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
66	WARD NO. 48	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
67	WARD NO. 49	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
68	WARD NO. 50	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
69	WARD NO. 51	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
70	WARD NO. 52	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
71	WARD NO. 53	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
72	WARD NO. 54	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
73	WARD NO. 55	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
74	WARD NO. 56	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
75	WARD NO. 57	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
76	WARD NO. 58	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
77	WARD NO. 59	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
78	WARD NO. 60	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
79	WARD NO. 61	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
80	WARD NO. 62	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
81	WARD NO. 63	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
82	WARD NO. 64	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
83	WARD NO. 65	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
84	WARD NO. 66	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
85	WARD NO. 67	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
86	WARD NO. 68	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
87	WARD NO. 69	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
88	WARD NO. 70	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
89	WARD NO. 71	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
90	WARD NO. 72	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
91	WARD NO. 73	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
92	WARD NO. 74	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
93	WARD NO. 75	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
94	WARD NO. 76	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
95	WARD NO. 77	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
96	WARD NO. 78	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
97	WARD NO. 79	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
98	WARD NO. 80	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
99	WARD NO. 81	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓
100	WARD NO. 82	23/11/2013	✓	04/12/2013	✓	12/12/2013	✓

Annexure VIII: Sample Documentation maintained for BMW

Dept. : Biomedical Waste Management

Record : Monthly Biomedical Waste Incinerated

Year : 2021

Type Of Bio Medical Waste	Kg / Year
Human Anatomical Waste	1872.00
Soiled Waste	46884.00
Expired or Discarded Medicines	36.00
Microbiology & Biotechnology and other clinical laboratory waste	1560.00
Contaminated Waste (Recyclable)	15108.00
Waste Sharps including metals	9588.00

Annexure IX : The E-Waste handed over to Authorized Recycler for Disposal.

Date - 09.03.2022		
Sr. No.	Name of Item	Weight
1	UPS Battery	47 Kg
2	Key Board	7 Kg
3	Printer	35 Kg
4	CPU	8 Kg

Date - 24.05.2022		
Sr. No.	Name of Item	Weight
1	Loose Wire	89 Kg
2	Air Conditioner	5 Nos.
3	Compressor	112 Kg
4	CFL Light	185 Kg
5	Tube Patti	48 Kg
6	Old Tube Fitting (patra)	262 Kg
7	Gyzer	4 Kg
8	Gyzer Coil	13 Kg
9	Fan	36 Kg
10	PVC Fan	13 Kg
11	AC Motor	9 Kg

Date - 29.08.2022		
Sr. No.	Name of Item	Weight
1	Fan	158 Kg
2	AC Compressor	97 Kg
3	Exhaust Fan	69 Kg
6	PLL Street Light	9 Kg
7	Coil	3 Kg
8	UPS Battery	10 Kg
9	Choke	3 Kg
10	Wire	50 Kg
11	Copper	6 Kg

Annexure X : Report showing unit Consumption from Electricity sourced from MSCB & from Own Solar Power Grid

Dept. : Power House (Electricity consumption sourced from MSCB)		
Year : 2022		
Sr. no	Month	Unit consumption from MSCB
1	Jan-22	248533
2	Feb-22	243070
3	Mar-22	378643
4	Apr-22	438882
5	May-22	471867
6	Jun-22	402081
7	Jul-22	355397
8	Aug-22	352583
9	Sep-22	350146
10	Oct-22	--
11	Nov-22	--
12	Dec-22	--

Dept. : Power House (Electricity consumption sourced from Solar Power Grid)		
Year : 2022		
Sr. no	Month	Unit Consumption from Solar
1	Jan-22	84367
2	Feb-22	94823
3	Mar-22	103978
4	Apr-22	85008
5	May-22	94662
6	Jun-22	73632
7	Jul-22	57449
8	Aug-22	77456
9	Sep-22	88859
10	Oct-22	--
11	Nov-22	--
12	Dec-22	--

Annexure XI : Fire Mock Drills & Training

Dept. : Security Dept. (Emergency Code Red (Fire) Training)



Dept. : Security Dept. (Fire Hydrant Mock drill)




REGISTRAR
Krishna Vishwa Vidyapeeth
(Deemed to be University),
Karad