



ENVIRONMENTAL AUDIT REPORT - 2019

Auditee

*Krishna Institute Of Medical Sciences,
"Deemed To Be University"
Malakapur, Tal: Karad, Dist: Satara, Maharashtra*

Auditor

*Green Scientific Development (I) Pvt. Ltd.
4/A Wing, Bldg No. 23, Tulsi C.H.S. Ltd,
Subhash Nagar, Chembur, Mumbai 400071
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September 27, 2019

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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**

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

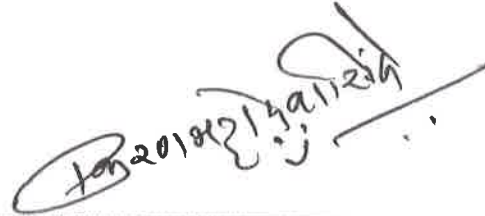
Date of Environment Audit **27 September 2019**

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

Stamp of Company :



2.0 Environmental Audit Committee & Audit Program

Environmental Audit Date : 27 September 2019

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. Tushar Kadam	MR	Office Superintendent
3	Mr. Ganesh Patole	Member	Environmental Supervisor
4	Mr. D. S. Kashid	Member	Civil Supervisor
5	Mr. S. Y. Kirdak	Member	HOD- Garden Dept.
6	Mr. Y. G. Kulkarni	Member	HOD - Power House Dept.

2.2 ENVIRONMENTAL AUDIT SCHEDULE

Table 2.0: Audit Schedule With Time and Location

Heads	From	To	Location
Opening Meeting	9.00	9.30	With Management Team & Auditee
Site Visit	10.00	12.00	Departments
Lunch Hr	12.00	13.00	In House
Site Visit	13.00	17.00	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 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 Medical Council of India, 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 Medical Council of India. It also admits the international students from all over the globe for undergraduate courses.

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 theaters, minor theaters, labour rooms, blood bank accredited by NABH, radiodiagnosis 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'.

3.1 VISION

To emerge as a centre of excellence following an interdisciplinary, innovative and quality centric approach that encompasses best evidence based higher education and generates refutative and translational research and offers affordable health care access for the benefit of mankind.

3.2 MISSION

- Krishna Institute of Medical Sciences "Deemed To Be University" shall prepare competent and compassionate professionals with sound knowledge and excellent skill through quality education based on a competency model that inculcates scientific temper, moral and ethical values.
- It shall foster interdisciplinary research that will generate meaningful outcomes for the community and nation.
- It shall provide quality health care to the rural and needy and bring about holistic development in the adjoining rural areas.
- It shall seek collaborations with national and international institutions of repute and provide a transparent and accountable governance system.

3.3 THE BEGINNING

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 2019. 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.

3.4 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”.

3.4.1 *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

3.4.2 *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

3.4.3 *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 112 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.

3.4.4 *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

3.4.5 *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.

3.4.6 *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.

3.4.7 *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.

3.4.8 *Blood bank*

NABH accredited blood bank at Krishna Hospital offers components facility.

3.4.9 *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.

3.4.10 *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.

3.4.11 *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.

3.4.12 ICU Details

<u>Sr.</u>	<u>Type</u>	<u>Beds</u>
1.	Casualty	06
2.	High Dependent Unit	14
3.	Coronary Care (CCU)	05
4.	Medical ICU	17
5.	Surgical ICU	16
6.	Neonatal ICU	20
7.	Ob/G ICU	04
8.	Paediatric ICU	04
9.	Cath lab ICU	08
10.	CVTS ICU	12
11.	Burns ICU	06
	Total	112

3.4.13 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.

3.4.14 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 expertises on offer at Krishna Hospital.

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

3.4.15 *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.

3.4.16 *Leading the Way*

As a very important tertiary care centre and a leading university in the field of medicine, the hospital also has a dedicated Eye Bank with Keratoplasty, separate Burns unit with 6 ICU beds, Central Research Lab, Clinical and Demo rooms equipped with audio-visual teaching aids and well stocked clinical instruments, clinical materials and equipment.

3.4.17 *Ancillary Therapy*

Krishna Hospital has a team of well qualified and highly efficient psychology counsellors and Medical Social Workers that assist in and work in the field of Clinical Psychology, Child Psychology, Speech Therapy, patient and next to kin counselling, running various activities like suicide prevention seminars, de-addiction seminar and workshops etc. Along with psycho-therapy, physiotherapy is given due importance at Krishna Hospital which has separate Physiotherapy OPD, Therapeutic Gymnasium, Mannequin Research Lab and a fully functional one of its kind Department of Prosthetics and Orthotics.

3.4.18 *Charity Schemes*

- 10 percentage beds total charity for indigent patients (I BED)
- 10 Percentage beds for weaker section (w/s).
- Survey of poor & destitute patients is done and free treatment card are distributed to them.

Patients with these cards receive totally free treatment including medicines, food & special investigations. There are economical weaker families from 37 villages adopted for free treatment. Two villages Khubi and Kapil have been adopted for 30% concession in IPD billing. Two slum areas Agashivnagar and Gopalvasti have been adopted for free medical treatment. Approximately 5000 people get free treatment in this institute every year. Ex-Servicemen & Freedom fighters are given free of charge treatment.

3.4.19 *National and International Collaborations*

- Indian Council of Medical Research
- National Aids Research Institute
- National Institute of Epidemiology
- National Institute of Virology
- Moving Academy of Medicine and Biomedicine
- Department of Health Sciences – Savitribai Phule University
- Defence Institute of Advanced Technology and many more.

3.4.20 *Service Collaborations*

- Prevention of mother to child transmission, PMTCT program.
- Janani Shishu Shuraksha Yojana, JSSY.
- Mahatma Jyotirao Phule Jeevand ayee Arogya Yojana, MJPJAY.
- Maharashtra Police Kutumb Arogya Yojana, MPKAY.
- NARI – National Aids Research Institute.
- All India Railway beneficiaries scheme (cashless).
- Ex-Servicemen Contributory Health Scheme, ECHS.
- Revised National Tuberculosis Control Program, RNTCP.
- Maharashtra Govt. free family planning surgery.

3.4.21 *Outreach Activities*

- HIV – AIDS awareness programs in urban & rural communities with special focus on reproductive age group of young adults.
- Sarva-Shiksha Abhiyaan.
- Cancer awareness program & cancer diagnostic camps.
- Dental health and oral cancer awareness camps.
- Blood donation camps.
- Sarva-roga Nidaan Shibir.
- Breast cancer awareness camps.
- Project for malnourished child (special project Krishna Laddu)
- Substance de-addiction programs and counselling.
- Personality development counselling for students during summer vacations.
- Aptitude testing camps for students.
- Suicide prevention through mental health awareness campaigns.
- Special campaigns addressing women's mental health.

3.5 OBJECTIVES OF STUDY

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

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 analyzing the pattern and extent of resource use on the campus and its management w. r. t. sustainable development.

3.6 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

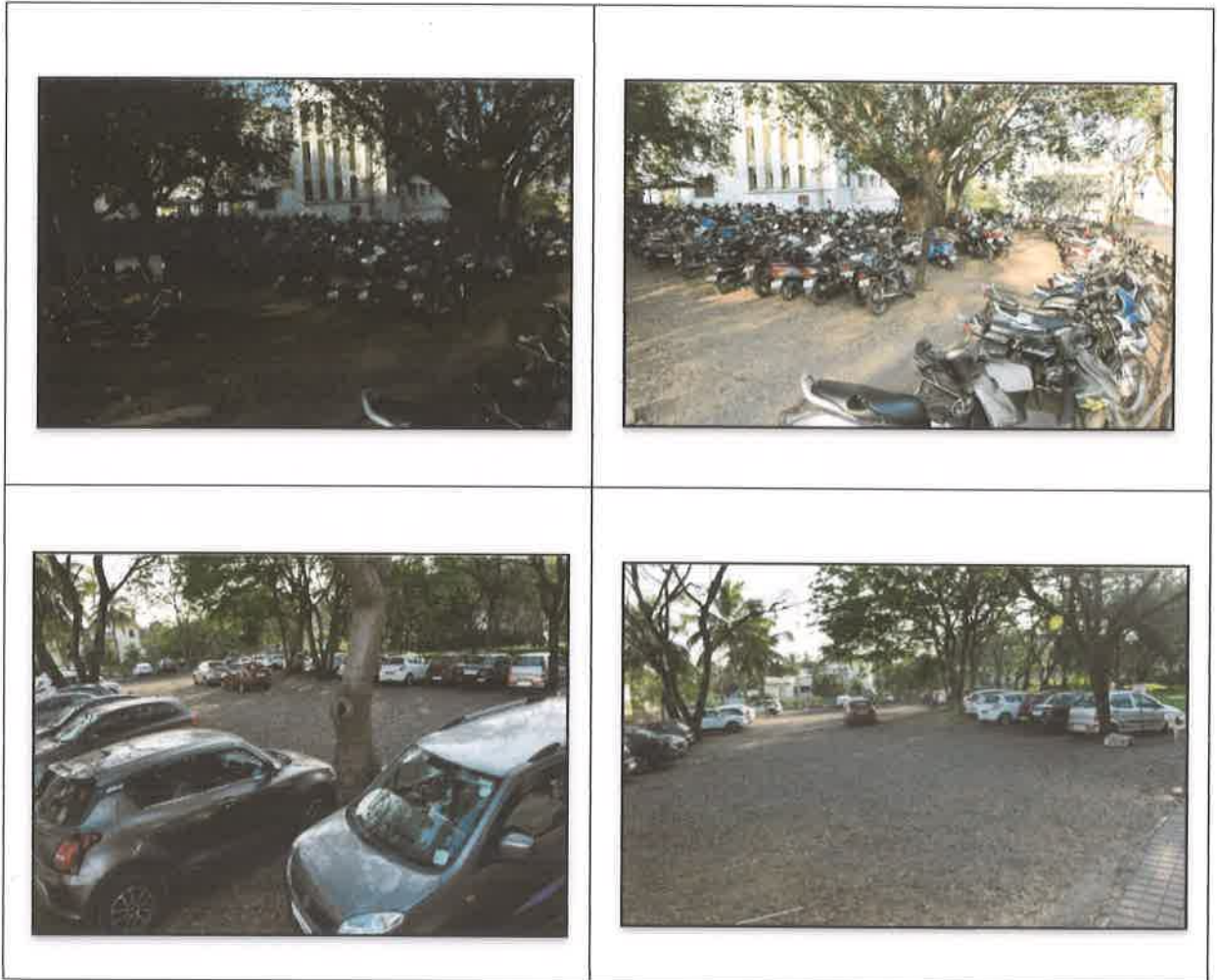
Sr. No.	Details	Area (In SQ. Mt)
1	Hospital campus area	233757
2	Tree cover of the campus	89784
3	Buildings	112166
4	Area of Utility	9891
5	Open Area	131355
6	Parking Area	4000

- 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
HMV	10
Bi cycle	45

Photograph 1: Parking Facility Provided by KIMSDU



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

- 100 super specialty beds
- 8 ICUs with 112 beds
- Emergency services with 30 beds and 6 ICU beds
- 20 NICU beds
- 40 private rooms
- 20 Deluxe Rooms
- 14 Super Deluxe Rooms
- 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, gonorrhoea, 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.

- a) Excess quantities of iron, manganese, calcium, barium, chromium, copper, cadium, boron, and other salts such as nitrate, sulphate, borate, carbonate, etc in water have adverse effects on human health.
- b) The excess of magnesium and Sulphate in water irritates the intestines.
- c) In children, the excess of nitrate leads to the disease methemoglobinemia and generates stomach cancer by reaching the intestine.
- d) Fluorosis is a disease caused by excess of fluorine.
- e) 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.

Water pollution is dangerous for all life forms in this universe. Pollution of water leads to several illnesses.

4.2.1 **Water Management**

The Institute, hospital and hostel 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 Malakapur 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

Sr. No.	Area	Water usage (Lit/day)
1	Garden	2,50,000 recycled from STP
2	Operation Theatres	8,000
3	General Wards	34,000
4	Special Wards	10,000
5	Cleaning	5,000
6	Canteen	8,000
7	Drinking	40,000
8	Toilets	25,000
9	Bathrooms	70,000
10	Washing	50,000
11	Construction works	40,000
12	Office uses	20,000
13	Urinals	12,000
14	Laboratories	28,000
Total		3,50,000

Table 6.0: Other Water data is as follows

SR. No.	Aspect	Details
1.	Water and Wastewater treatment system.	The hospital have following treatment systems in the premises: <ul style="list-style-type: none"> • Water Treatment Plant of 750 m³/d capacity • Sewage Treatment Plant of 2* 500 m³/d capacity • Effluent Treatment Plant of 100 m³/d capacity
2.	Water cooler with drinking water filtration.	<ul style="list-style-type: none"> • Aquagard 44 Nos. • R.O. Systems 3 Nos. • Cooler 47 Nos.
3.	Number of urinals and toilets	<ul style="list-style-type: none"> • Western WC 710 Nos • Indian WC 405 Nos • Urinals 163 Nos
4.	Water pumps	<ul style="list-style-type: none"> • 2 Nos Pumps of 7.5HP • 5 Nos Pumps of 5.0HP • 1 No Pump of 20HP
5.	Quantity of water pumped	350 m ³ /d
6.	Number of water tanks for water storage	37 Nos
7.	Quantity of water stored	1600 m ³

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 theaters 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 CHWT SDF. 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



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 fledged Rain Water harvesting Plan in their premises.

Rainwater Harvesting certificate of Civil Department is enclosed as *Annexure VII*

Sr. No.	Building Name	Terrace area sq.m.	Water collection lac lit/year	Near Bore
1	BDS hostel	640	4.00	Bore no. 2
2	Ward no. 14,19	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 3 DG sets viz. 2 sets of 250 KVA and one 500 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 (994Lit/month) 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 VIII*.
- 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 IX*.

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 X*.

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 600 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 XI*

Energy Conservation/Use of Non-Conventional Energy Sources

The KIMSDU has installed 500 KWP solar panels in the campus. The average power generation for solar power is @ 60000 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 fledged 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 XII*.
- 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 hospital campus has provided 38% of total area for green belt and open spaces. Various types of trees (@ 3000) are plated 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 and found to be satisfactory and meeting to the compliances with applicable standards, regulations and Management Policies.

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	No	No	No
EMS Activity	Y	No	No	AFI ¹
Water Environment	Y	No	No	No
Air Environment	Y	No	No	No
Bio Medical Waste	Y	No	No	No
E Waste	Y	No	No	No
MSW & Other waste	Y	No	No	No
Energy	Y	No	No	No
Safety & Health	Y	No	No	No
Radiation Safety	Y	No	No	No
Infectious Management	Y	No	No	No
Noise / Aesthetic/ Social Env.	Y	No	No	No

Y – Yes, N – No, AFI-Area for Improvement, AFI¹-* Number of AFI

5.1.1 *List of the Area for improvement (AFI)*

AFI¹ : As all most all the ISO requirements are in place, KIMSDU can apply for ISO 14001:2015 certification.

5.1.2 *Positive (+ Ve) Observation*

- 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.
- 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.
- Fire and Safety aspects t the premises handled to the mark.
- Tree Plantation is carried out and green belt is maintained.
- CSR is planned and regularly implemented.

ANNEXURES

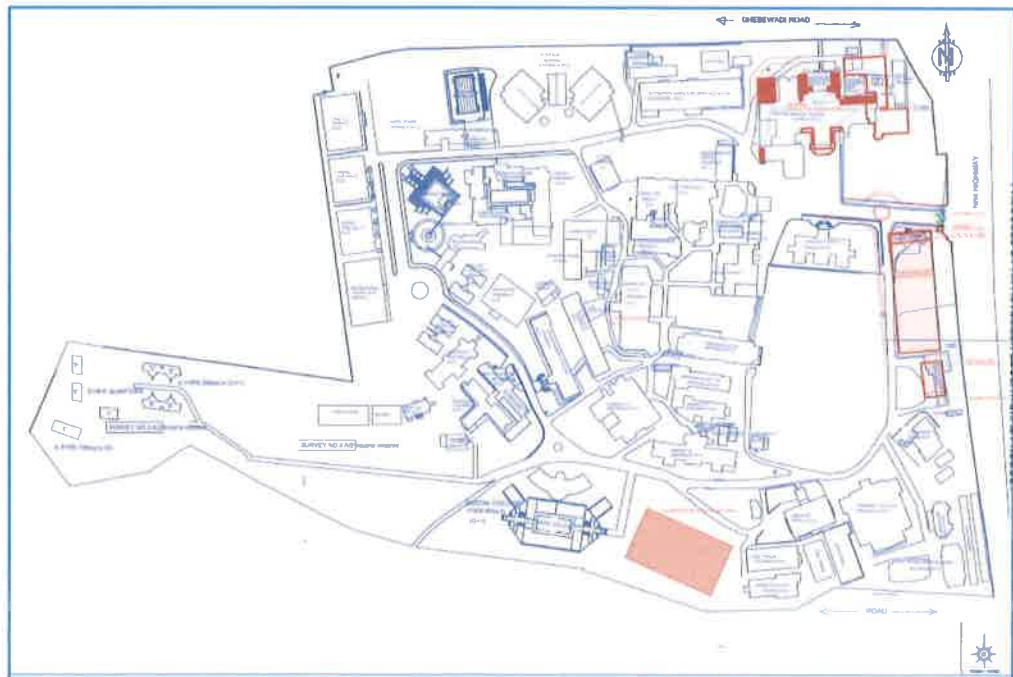
**ENVIRONMENTAL AUDIT REPORT
FOR KIMSDU**

September 27, 2019

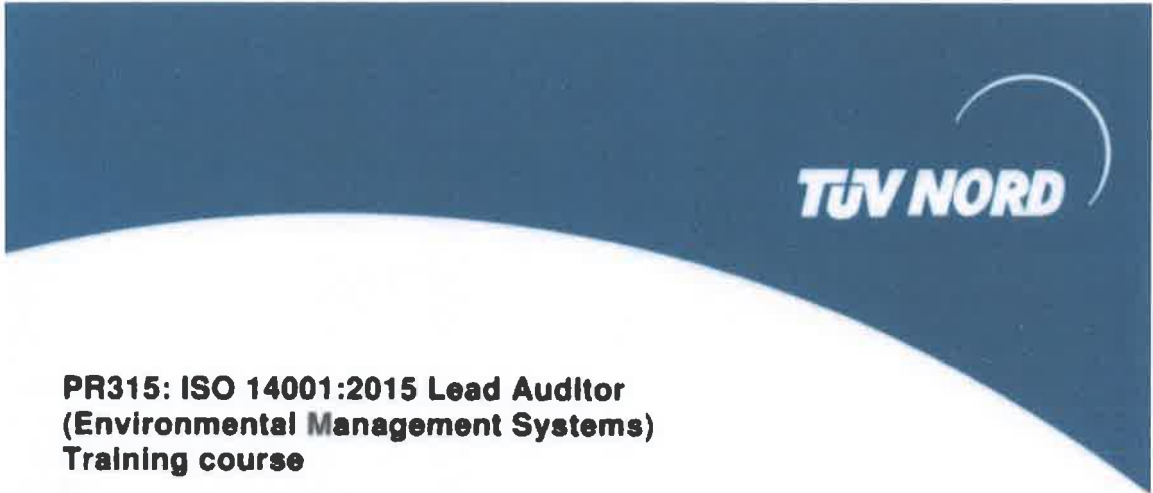
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Annexure I Layout of Campus



ANNEXURE II Lead Auditor Certificate



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. 168346

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

Langemarckstraße 20

45141 Essen

www.tuev-nord-cert.com



ANNEXURE III Water Consumption Report

**KRISHNA INSTITUTE OF MEDICAL SCIENCES DEMMED TO BE
UNIVERSITY, MALKAPUR KARAD, DIST-SATARA.
KRISHNA CHARITABLE TRUST , MLKAPUR 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 - 2018

Month	Per day Water Consumption	Checked By
May	7,16,000	
June	5,89,000	
July	7,28,000	

Building	No. of persons
Hospital & OPD	2375
Hostels	1850
College & University building	2000
Total Persons	6225

Average water consumption per day = 6,77,666 lit/day

Average water consumed / person = Average water consumption/ Total person
=6,77,666/6225

Average water consumed /person =108 lit.


J.M.G.T.A.P. S.V.
CIVIL INCHARGE
K.I.M.S.D.U., KARAD

Annexure IV : Valid Consent Copy of KIMSDU by MPCB

MAHARASHTRA POLLUTION CONTROL BOARD
 Tel: 2401709; 2401043
 Fax: 24023516
 Website: www.mpcb.gov.in
 E-mail: mpcb@mpcb.gov.in

Kelabara Pond, 2nd - 4th Floor
 Opp. Chhatrapati Chhatra,
 Near Sion Circle, Sion (E)
 Mumbai-400 022

Consent under the Environmental Protection Act, 1986 and Rules thereunder for discharge of effluents into the water body.
 Date: 23/07/2015

To,
 M/s. Krishna Charitable Trust, Krishna Hospital & Medical Research Centre,
 Dabawadi Road, Mulapur, T.M. Karad, Dist. Satara

Subject: Combined removal of Consent for Operation and Renewal of BMW Authorization under PCC category for Health Care Establishment (HCE)

Ref:
 1. Previous Authorization No. M/PAM/S/10/13 dated 27.01.2013 and 21.08.2015
 2. Previous consent vide no. M/PAC/CA/14/15/1174-12/544 dated 02.03.2015 and 23.04.2015
 3. Your application approved in 1st CAC Meeting of 2016 held on 27.06.2016.

Your Application No. CR/11/100043 (No. 02.07.2015 and 11.10.2015) and 02.07.2015 for Combined removal of Consent for Operation and Renewal of BMW Authorization under Section 30 of the Water (Prevention & Control) Act, 1986 and Section 21 of the Air (Prevention & Control) Act, 1986, Amendment under Rule 5 of the Hazardous Waste (M. H. S. I) Rules 2008 and Bio-medical Waste Management and Handling Rules 1986, as amended is considered and the consent is hereby granted subject to following terms and conditions as detailed in the schedule I, II, III, IV & V annexed to this order.

- The consented consent to operate with BMW authorization is granted for a period upto 31.08.2018
- The actual capital investment in the Health Care Establishment is Rs. 131.38 Cr. (As per C.A. certificate submitted by HCE)
- The Combined Consent and BMW Authorization is valid for the Activity of -

Sr. No.	Activity	Area
1.	Health Care Establishment with Laundry activity (net Total Plot area 1,28,230 sq.m. and Total Construction Area of 19,396.14 sq.m)	4855 Sqm.

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

Sr. No.	Description	Percentage quantity of effluents (CMQ)	Standard to be observed	Remarks
1.	Trade effluent	40.2	As per Schedule-I	The treated trade effluent shall be recycled to maximum extent and remaining shall be released to water body.
2.	Domestic	600	As per Schedule-I	The treated effluent to be released to water body.

Consent under Air (P&C) Act, 1986 for air emissions.

Sr. No.	Description of Polluting Source	Number of Stack	Standards to be achieved
1.	Boiler house	1	As per Schedule-II
2.	Oil Ref. (1 x 100 KVA)	2	As per Schedule-II
3.	Oil Ref. (2 x 100 KVA)	2	As per Schedule-II
4.	Motor	1	As per Schedule-II

Consent under Hazardous Waste (M. H. S. I) Rules, 2008 for treatment and disposal of hazardous waste:

Sr. No.	Category	Type of Waste	Quantity	Treatment	Disposal
1.	Oil Ref.	TP (Sludge)	16984	CHWISOP	CHWISOP
2.	Oil Ref.	High viscosity generator of transformer waste	20	CHWISOP	CHWISOP

7. Non-Hazardous Solid Wastes:

Sr. No.	Type of Waste	Quantity	TQM	Treatment	Disposal
1.	Waste Sludge	As per schedule-I	100%	GC/CC	Landfill
2.	Waste Sludge	As per schedule-I	100%	GC/CC	Landfill

- This Consent requires the applicant to provide, amend, suspend, revoke etc. this consent and the same shall be binding on the applicant.
- This consent should not be construed as exemption from obtaining necessary NOC/permissions from any other Governmental agencies.
- Applicant shall comply and strictly abide with the conditions stipulated in BMW (MHI) Rules, 1986 as amended.
- Applicant shall comply with the provisions of the Environmental Protection Act, 1986 and the Rules thereunder.
- Any information (change or modification or addition) as provided in the application by the person authorized shall constitute a breach of this authorization.
- Applicant shall submit details of Management and Handling of untreated, discarded, stored, untreated sludge generated in the Consent holder, monthly and health care in the format prescribed for CPCB which is available on www.mpcb.gov.in along with Annual Report to MPCB, with a copy to CPCB before 31st January every year.
- Applicant shall manage the **Mandatory Wastes** in the HCE in an environmentally sound manner including storage, transport, collection, transportation and disposal as per CPCB guidelines published on www.mpcb.gov.in.

CPCB hereby **consent** to dated 07.06.2015 as detailed in enclosure enclosed "Environmentally sound Management of Mercury Waste in Health Care Facilities".

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

For and on behalf of the
 Maharashtra Pollution Control Board
 P. S. Chitambar
 Member Secretary

Received Consent fee of -

Sr. No.	Amount/Sl. No.	Date	Entity Of	Remarks
1.	1,00,000/-	26.06.2015	Shri. V. S. Chitambar	
2.	4,85,500/-	07.07.2015	Shri. V. S. Chitambar	
3.	75,000/-	24.07.2015	Shri. V. S. Chitambar	
4.	48,000/-	05.08.2015	Shri. V. S. Chitambar	
5.	95,700/-	20.08.2015	Shri. V. S. Chitambar	

Copy to:
 1. Regional Officer - MPCB, Pune and all Regional Officer MPCB, Satara, They are directed to ensure the compliance of Bank Guarantee conditions.
 2. Chief Accounts Officer, MPCB, Pune.
 3. CC/CAC And, for record & further action purposes.

Schedule-I

1. **Terms & Conditions for conditions of Secondary Treatment Plant**

A) As per your consent application, you have provided the sewage treatment system (STP) for treatment of sewage effluent with the design capacity of 1000 m³/day based on latest technology.

B) The applicant shall maintain and repair the sewage treatment system to treat the sewage so as to achieve the following standards prescribed under EP Act, 1986 and Rules thereunder more than 90% of time, whichever is stringent.

Sr. No.	Parameters	Standards prescribed by Board
01	BOD (5 days 20°C)	100
02	Suspended Solids	100
03	pH	6 to 9
04	Oil & Grease	10
05	Free Chlorine	0.2 mg/l

C) The treated effluent shall be 60% recycled for secondary purposes such as flushing, air conditioning, cooling tower make up, firefighting etc. and remaining shall be released to land for gardening. In no case, effluent shall flow to any water body directly or indirectly at any time. Project proponent shall provide flow meter to ensure 60% recycling of treated sewage and shall maintain the record with data logging system. Project proponent shall achieve the treated effluent standard for the parameter BOD₅ 100 mg/l, original total solids monitoring system within 3 months time period.

2) As per your application, you have provided 07 Sewer Treatment Plants (STP) with the design capacity of 300 QGD.

B) The Applicant shall comply with the effluent treatment plant (ETP) to treat the trade effluent so as to achieve the following standards prescribed by this Board or under EP Act, 1986 and Rules thereunder more than 90% of time, whichever is stringent.

Sr. No.	Parameters	Standards prescribed by Board
01	pH	Between 5.5 to 9.5
02	BOD (5 days 20°C)	100
03	Suspended Solids	100
04	pH	6 to 9
05	Oil & Grease	10
06	Free Chlorine	0.2 mg/l

C) The treated trade effluent shall be recycled maximum for secondary purposes such as flushing, air conditioning and fire fighting and remaining shall be utilized on land for gardening. In no case, effluent shall flow to any water body directly or indirectly at any time.

3) The Board reserves its right to review plans, specifications or other data relating to the design for the treatment of wastewater for the pollution control & the system for the disposal of sewage or trade effluent or in connection with the grant of any consent conditions. The Applicant shall comply with the conditions of consent.

Ann IV : 01 of 04

40. The industry shall ensure replacement of pollution control system or its parts after expiry of its expected life as defined by manufacturers so as to ensure the compliance of standards and safety of the operation thereof.

41. The Applicant shall provide specific Water Pollution control system as per the conditions of EP Act, 1986 and rules made there under from time to time/ Environmental Clearance / CEMP guidelines if applicable.

42. In case, the water consumption of the project is not covered under the water consumption of local body, it shall ensure that the project proponent shall submit certificate to that effect from the competent local body with the request set to address ESS on their water consumption, being already mentioned on the water consumption of local body.

43. In case the water consumption is duly covered under the quantity of water consumption of local body the project proponent shall submit certificate to that effect from the competent local body with the request set to address ESS on their water consumption, being already mentioned on the water consumption of local body.

44. Conditions under Water Conservation & Control of Pollution Act, 1977 as amended

The Applicant shall comply with the provisions of the Water Conservation & Control of Pollution Cess Act, 1977 and as amended by notifying water meter and water cess returns in Form-I and other provisions as mentioned in the said act.

Sr. No.	Purpose for water requirement	Water Consumption quantity CMD
1.	Production of product, Initial level etc.	1
2.	Domestic purposes	132
3.	Fire fighting activities within premises & surrounding area including roads	10
4.	Fire fighting activities within premises & surrounding area including roads and fire water	0.00

Company Name: Vinaka Hospital & Medical Research Centre
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Schedule II

A) Detail of specifications for pollution control (APC) system and also evolved following table to monitor the following parameters

Sr. No.	APC Attached To	APC System	Height in Meter	Type of Fuel	Quantity	UDM	SH	SO ₂ Emission
1.	Vacuumation SS kg/ltr	Vertical scrubber	30	HSD	30	16/Day	1	4.8
2.	VU on (1 + 1) 375 KVA	Acoustic Chamber	7.2'	HSD	30	16/Day	1	-
3.	VU on (1 + 1) 250 KVA	Acoustic Chamber	3.2'	HSD	38	16/Day	1	-

4. The Applicant shall operate and maintain above mentioned or pollution control system, so as to achieve the level of pollution to the following standards:

Particulate matter: Not to exceed 130 mg/m³

5. The Applicant shall obtain necessary prior permission for any new additional control equipment with necessary specifications and operation thereof to be used for restoration/cleaning and from competent authority through CEMO before its use.

6. The Board reserves the right to any of the conditions in the contract, if due to any technological improvement or otherwise with variation (including the change of any control equipment, other as allowed or as per necessary).

Company Name: Vinaka Hospital & Medical Research Centre
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Schedule III

A) Details of Conditions for collection of Bio-medical Waste Management

1. The 'Bio-medical Waste' shall mean and include all kinds of waste, Vinaka Hospital & Medical Research Centre, Theroval road, Malappuram, K.P. Area, Dist. Kerala which contain any infectious or harmful substances and the material which are under the provisions of the Environment Protection Act, 1986, and the Rules made there under.

2. The untreated waste is generated for generation and disposal of the Bio-medical Waste (BMW) in waste categories and quantities listed here in below:

Sr. No.	Category	Description	Quantity not exceed (kg/d)	Segregation Code/Color coding	Treatment & Disposal
1.	Cat I	Human Anatomical waste	200	Yellow	Incineration
2.	Cat II	Pathology & Microbiology Waste	100	Yellow	Incineration
3.	Cat III	Medical Sharps	100	Blue / white translucent	Disinfection (chemical treatment) and/or sterilisation / autoclave
4.	Cat IV	Sharps, Minor needles & syringes, etc.	100	Yellow	Incineration
5.	Cat V	Soiled Waste	1500	Red	Disinfection (chemical treatment) and/or sterilisation / autoclave
6.	Cat VI	Pharmaceutical waste	72		CHWISDF

3. BMW shall not be mixed with other wastes or reused or sold in any form.

4. BMW shall be segregated into containers / bags at the point of generation in accordance with schedule III prior to storage, treatment and disposal. The containers shall be labeled according to schedule III of the Rules 1986.

5. If a container containing BMW is to be transported from the premises where BMW is generated to any waste treatment facility outside the premises, the container shall start from the label indicating its contents, its quantity, date and time of generation as mentioned in Schedule IV and shall be transported by authorized companies only.

6. Reuse/Refill/Reuse: Re-used in the State Vehicle Act, 1988 or Rules there under shall not be transported into the same unless it is used as per the permission by the competent authority as specified by the Government.

7. Measurement shall be done every beyond a period of 30 days.

8. The entry, receipt and other details shall be reported by the Hospital Authority.

Company Name: Vinaka Hospital & Medical Research Centre
Page 7 of 14

1. You shall ensure proper collection of every bio-medical waste into the knowledge of the competent person (Bio-medical waste) who is equipped with the health care facilities (HCF) in order to do this in accordance with the National Health & Medical Research Council (NH&MRC) Manual (Bio-medical Waste Management & Handling) Rules, 2003 and following it by the competent authority and from necessary steps to ensure that the bio-medical waste and become a part of the waste management system as mentioned in the rules.

2. Authorized person shall obtain prior permission from NH&MRC for generation & disposal of Bio Medical waste and the category of waste shall be as per the schedule III of the Rules.

3. You shall submit an Annual Report to the competent authority in Form 'A' by 31st January every year containing information about the quantities and qualities of BMW handled during the preceding year.

4. You shall maintain records related to the generation, collection, treatment, disposal, storage, transportation, treatment, disposal and/or any form of handling of BMW in accordance with the Rules and any guidelines issued.

5. BMWs shall be subject to inspection and verification by the competent authority at any time.

6. When any accident occurs at any collection or facility and where bio waste BMW is handled or during transportation of such waste, the authorized person shall report the accident in Form 'B' to the competent authority forthwith.

7. You shall obtain valid registration copy of Biomedical Waste Act in Board.

8. The Officer-in-Charge, at the Local Health Centre issued by the Board Officers from time to time.

B. STANDARDS FOR TREATMENT AND DISPOSAL OF BIO-MEDICAL WASTES

1. STANDARDS FOR INCINERATION
ADH must ensure that the following standards and emission standards

A) Operating Standards

1. Temperature of primary chamber shall be not less than 1150°C.

2. The Combustion efficiency shall be as follows:

CO = 100%

CO₂ = 27.00%

CO₂ / SO₂

3. The temperature in the primary chamber shall be a minimum of 800°C and the secondary chamber shall be minimum of 1200°C and 1400°C.

4. The secondary chamber shall have sufficient air supply to be at least 100%.

B) Emission Standards

No.	Parameter	Standards
1.	(1) Sampling frequency in mg/m ³ unless stated	(2) Sampling frequency is in minutes unless stated
1.	Particulate matter	50 or 100 as a sample volume whichever is more
2.	Weighted Sulfur Dioxide (SO ₂)	150 for 15 minutes sampling or 60 for 15 minutes
3.	NO _x	100 for 15 minutes sampling or 40 for 15 minutes

Company Name: Vinaka Hospital & Medical Research Centre
Page 8 of 14

A.	Table: Design and Parameters	0 mg/100 litres (at 12.5°C)	shall follow in strict adherence to ISIRI standards
	Fig 2.11.4.1 (continued)	0.5	6 hours at 50°C of complete sterilization and 12 hours at 121°C of complete sterilization, as specified in table 2.1.1.1 of ISIRI of complete sterilization, as specified in table 2.1.1.1

C. Stack Height: Minimum stack height shall be 30 metres above the ground and shall be attached with the necessary monitoring facilities as per requirement of monitoring of 'general parameters' as notified under the Environment (Protection) Act, 1986 and in accordance with the Central Pollution Control Board Guidelines of Incineration Regulation Part-4.

10. The existing incinerators shall comply with the above within a period of two years from the date of the notification.

11. The existing incinerators shall comply with the standards for Design and Parameters of ISIRI/ISIRI 3, as given from time to time from the date of commencement of these rules.

12. All upcoming common bio medical waste treatment facilities having High Efficiency Suction or capture incinerator shall comply with standards for Design and Parameters.

13. The existing secondary combustion chamber of the incinerator and the pollution control devices shall be suitably modified, if necessary, to achieve the emission limits.

14. Wastes to be incinerated shall not be chemically treated with any hazardous chemicals.

15. Spill from incinerator or biomedical waste shall be disposed off in common bio-medical waste treatment and disposal facility. However, it may be disposed off in separate tanks, if the local authority or department are not under the regulatory jurisdiction defined under the Biomedical Waste (Management and Handling and Hazardous Waste Management and Handling) Rules, 2003 as amended from time to time.

16. Only low sulphur fuel low light thermal oil or low sulphur heavy stock or diesel, compressed natural gas, liquefied petroleum gas or liquefied petroleum gas shall be used as fuel in the incinerator.

17. The occupier or operator of a common bio medical waste treatment facility shall monitor the stack emission emissions (under optimum capacity of the incinerator) once in three months through a laboratory approved under the Environment (Protection) Act, 1986 and record of such analysis results shall be maintained and submitted to the prescribed authority in case of design and parameters, monitoring shall be done once in a year.

18. The occupier or operator of the common bio-medical waste treatment facility shall install continuous emission monitoring system for the parameters as stipulated by State Pollution Control Board or Pollution Control Committee in notification and transmit the data real time to the services at State Pollution Control Board or Pollution Control Committee and Central Pollution Control Board.

19. All incinerated wastes shall be collected to 35% oxygen in dry basis.

20. Incinerators (combustion chambers) shall be operated with such temperature, retention time and turbulence as to achieve Total Organic Carbon content in the slag and bottom ashes less than 3% or three times as great as that less than 3% of the dry weight.

21. The occupier or operator of a common bio medical waste incinerator shall use combustion gas analyzer to measure CO, CO₂ and O₂.

2. STANDARDS FOR AUTOCLAVING OF BIO-MEDICAL WASTE.
 The autoclave shall be designed for the purpose of sterilizing and treating bio-medical waste.

(1) Autoclave containing a specific fine substance, medical waste shall be subjected to:
 (a) a temperature of not less than 121°C and pressure of 15 pounds per square inch (psi) for an autoclave residence time of not less than 60 minutes; or

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(b) a temperature of not less than 135°C and a pressure of 31 psi for an autoclave residence time of not less than 30 minutes; or
 (c) a temperature of not less than 147°C and a pressure of 51 psi for an autoclave residence time of not less than 30 minutes.

(2) When operating a vacuum autoclave, medical waste shall be subjected to a minimum of three pre-vacuum pulses to purge the autoclave of all air. The air removed during the pre-vacuum cycle should be decontaminated by means of HEPA or equivalent carbon filtration, steam treatment, or any other method to prevent release of pathogens. The waste shall be subjected to the following:
 (a) a temperature of not less than 121°C and pressure of 15 psi for an autoclave residence time of not less than 45 minutes; or
 (b) a temperature of not less than 135°C and a pressure of 31 psi for an autoclave residence time of not less than 30 minutes.

(3) Medical waste that is not to be considered as directly treated in less than 100% separation and process efficiency, unless that the original time, temperature and pressure were reached during the entire process (if for any reason, time temperature or pressure separate indicators that the required temperature, pressure or residence time was not reached, the waste load of medical waste must be contained open until the proper temperature, pressure and residence time were achieved).

(4) Monitoring of operational parameters such as autoclave shall have digital or computer recording device which will automatically and continuously monitor and record (date, time of day, load identification number and operating parameters throughout the entire length of the autoclave cycle).

(5) Validation test for autoclave: The validation test shall use biological indicator strips, one shall be used as a control and left in moist bag and one shall be placed in the approximate center of three containers with the waste. Physical indicators, (temperature, time, load and cover) shall be used when opening containers for the purpose of placing the biological indicator. At least one of the containers with a biological indicator shall be placed in the most difficult location for steam to penetrate, generally on the bottom center of the waste pack. The occupier or operator shall conduct this test three times in a row to apply the minimum operating conditions. The temperature, pressure and residence time at each of biological indicators with or strips for three consecutive tests show complete inactivation of the spores shall define the minimum operating conditions for the autoclave. After determining the minimum temperature, pressure and residence time, the occupier or operator of a common bio-medical waste treatment facility shall conduct this test three in three months and records in this regard shall be maintained.

(6) Bioburden Test: A chemical indicator strip or tape that changes colour when a certain temperature is reached can be used to verify that a specific temperature has been achieved. It may be necessary to use more than one strip on the waste package at different locations to ensure that the entire content of the package has been adequately autoclaved. The occupier or operator of a common bio medical waste treatment facility shall conduct this test during servicing of each batch and records in this regard shall be maintained.

(7) Spore testing: The autoclave should completely and consistently kill the approved biological indicator at the maximum design capacity of each autoclave unit. Biological indicator for autoclave shall be Geobacillus pasteurianus spores using vials or spore strips; with at least 1X10⁸ spores. Under no circumstances can an autoclave have minimum operating parameters less than a residence time of 30 minutes, a temperature less than 121.0°C or a pressure less than 15 psi. The occupier or operator of a common bio-medical waste treatment and disposal facility shall conduct this test at least once in every week and records in this regard shall be maintained.

3. STANDARDS OF MONITORING

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(1) Maximum liquid waste to be used for systemic, including of infectious wastes, contaminated animal carcasses, body parts and legal animal items.

(2) The indicator system shall comply with the efficacy test or routine tests and a performance guarantee may be provided by the supplier before operation of the test.

(3) The membrane should completely and completely kill the bacteria and other pathogenic organisms that are killed by approved biological indicator at the maximum design capacity of each autoclave and, biological indicator for maximum shall be Bacillus pasteurianus using vials or spore strips with at least 1 x 10⁸ spores per detachable strip. The biological indicator shall be placed with waste and exposed to same conditions as the waste being a normal operating cycle.

4. STANDARDS FOR EFFICACY OF CHEMICAL DISINFECTION
 Microbial inactivation efficacy is equal to "log10 MP" which is defined as the difference between the logarithm of number of live microorganisms before and after chemical treatment. Chemical disinfection methods shall demonstrate a 4-log10 reduction or greater for Bacillus Spores (ATCC 9644) in chemical treatment systems.

5. STANDARDS FOR LIQUID WASTE

(1) The effluent generated in liquid waste from the process of incineration or operator of a common bio medical waste treatment and disposal facility, shall be discharged into the sewer through container to the following limits:

PH	6.5 to 9.5
Temperature	150 mg/l
Oil and grease	15 mg/l
SS (TSS)	30 mg/l
Ammonia nitrate	20 mg/l

(2) Wastewater from effluent treatment plant shall be given to common bio medical waste treatment facility for incineration or to hazardous waste treatment, storage and disposal facility for disposal.

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Schedule of Bank Operations

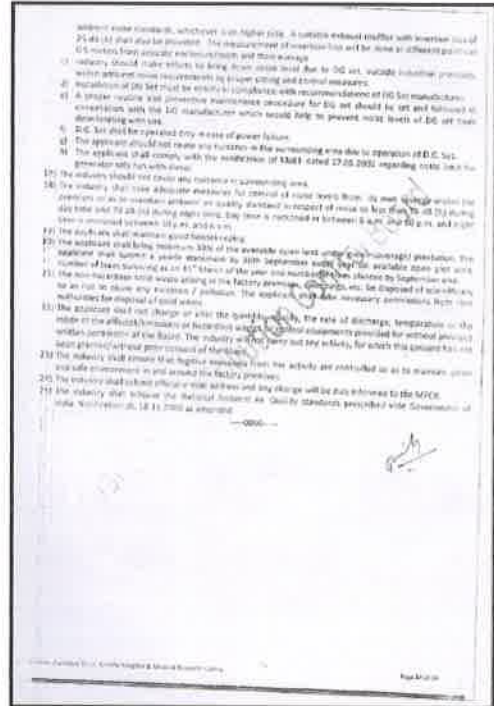
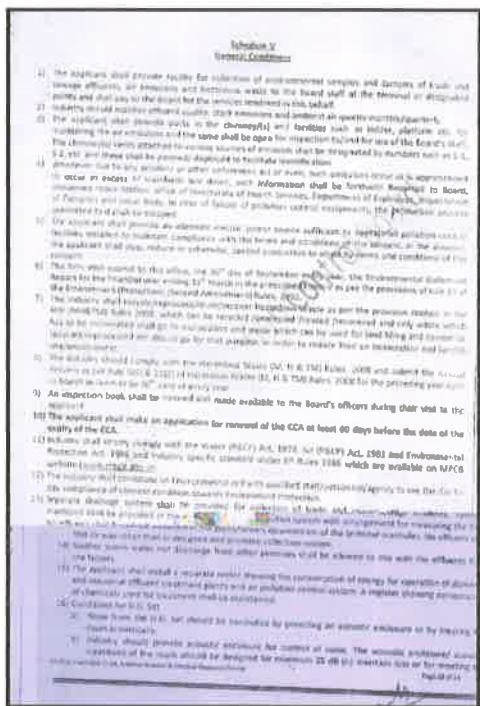
Statement of conditions to be corrected and Bank Operations required to ensure timely compliance to be obtained by M/s. Krishna Quamrubi Trust, Krishna Hospital & Medical Research Centre, Bidwan Road, Malappuram, K. Sivas, Thr. State.

Sr. No.	Activity / Condition to be Corrected	Compliance Timeline (Months)	Bank Guarantee Amount
1	Operation and Maintenance		
1.1	To segregate and handle waste as per rule	Continuous	5.00 LACS
2	Operation and Maintenance of STP/WWTP Treatment Plant to comply prescribed discharge standards	Continuous	10.00 LACS
100	Records		
1	To maintain records of ECHO and submission of Annual Report in Form - 1 before 31 st January	Continuous	11.00 LACS
2	To maintain records of BSLN monitor and submit	Continuous	10.00 LACS
11	Performance		
1	To provide separate BSLN storage tank as per notification of CPCB	Immediate	25.00 LACS
Total			115.00 LACS

Amount: Three Lakh Twenty Five thousand only.

Note:
 (1) The above Bank Guarantee(s) shall be submitted to the local unit of the respective Regional Office within 14 days of the date of issue of Conditional Process and Authorization (CPA).
 (2) The Bank Guarantee(s) shall be valid for a period of 12 months. Validity of CPA - 12 months.
 (3) Existing BG submitted for above purpose if any may be continued for a part of validity as above.

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

saenco

TEST REPORT

Company Name & Address: **Birkhara Institute of Health & Sciences**
T-6, Karam, Old, Sakaria

Report No.: **SAEN/18/19/19/42/01** Sample Received Date: **18 May 2018**

Order Ref No.: **Test Report** Sampling Method: **SASD/ISD-5/01**

Collected By: **Customer** Date of Analysis: **18 May 2018**

Sample Name: **Water** Sampling Location: **Raw Collection of Sewer Gas**

Sample Qty: **22 L** Packaging Material: **Raw Collection of Sewer Gas**

Request No.: **SAEN/18/19/19/42/01** Date of Report: **21 May 2018**

Sr. No.	Parameters	Result	Unit	Standard Value	Analysis Method
1	pH	7.22	pH	6.5-8.5	APHA 2545 (Part 5)
2	Total Dissolved Solids	238.00	mg/L	<250	APHA 2542 (Part 5)
3	Chemical Oxygen Demand (at 170°C for 2 days)	92.00	mg/L	<250	IS 3025 (Part 5)
4	Biochemical Oxygen Demand (at 20°C for 5 days)	22.00	mg/L	<100	IS 3025 (Part 5)
5	TSS & Grease	2.0	mg/L	<10	IS 3025 (Part 5)

Remarks: **Not Applicable.**

Notes:
1. Test Results pertain only to the sample tested.
2. Standard Value: MPCL Limit.
3. Parameters marked with * are not in MPCL Limit.
4. MPCL will accept the sample only if it is less than the value of the report.
5. The content of this report shall not be reproduced, stored in a retrieval system or used in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of the organization.

For SA Enco Private Limited
Mrs. Rubina Yabbar Quality Manager
Authorized Signatory

END OF REPORT

saenco

TEST REPORT

Company Name & Address: **Birkhara Institute of Health & Sciences**
T-6, Karam, Old, Sakaria

Report No.: **SAEN/18/19/19/42/02** Sample Received Date: **18 May 2018**

Order Ref No.: **Test Report** Sampling Method: **SASD/ISD-5/01**

Collected By: **Customer** Date of Analysis: **18 May 2018**

Sample Name: **Water** Sampling Location: **STP Outlet Old**

Sample Qty: **22 L** Packaging Material: **Raw Collection of Sewer Gas**

Request No.: **SAEN/18/19/19/42/02** Date of Report: **18 May 2018**

Sr. No.	Parameters	Result	Unit	Standard Value	Analysis Method
1	pH	8.28	pH	6.5-8.5	APHA 2545 (Part 5)
2	Total Dissolved Solids	120.00	mg/L	<250	APHA 2542 (Part 5)
3	Chemical Oxygen Demand (at 170°C for 2 days)	22.00	mg/L	<250	IS 3025 (Part 5)
4	Biochemical Oxygen Demand (at 20°C for 5 days)	10.00	mg/L	<100	IS 3025 (Part 5)
5	TSS & Grease	0.4	mg/L	<10	IS 3025 (Part 5)

Remarks: **Not Applicable.**

Notes:
1. Test Results pertain only to the sample tested.
2. Standard Value: MPCL Limit.
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For SA Enco Private Limited
Mrs. Rubina Yabbar Quality Manager
Authorized Signatory

END OF REPORT

saenco

TEST REPORT

Company Name & Address: **Birkhara Institute of Health & Sciences**
T-6, Karam, Old, Sakaria

Report No.: **SAEN/18/19/19/42/03** Sample Received Date: **18 May 2018**

Order Ref No.: **Test Report** Sampling Method: **SASD/ISD-5/01**

Collected By: **Customer** Date of Analysis: **18 May 2018**

Sample Name: **Water** Sampling Location: **Raw Collection of Sewer Gas**

Sample Qty: **22 L** Packaging Material: **Raw Collection of Sewer Gas**

Request No.: **SAEN/18/19/19/42/03** Date of Report: **18 May 2018**

Sr. No.	Parameters	Result	Unit	Standard Value	Analysis Method
1	pH	7.22	pH	6.5-8.5	APHA 2545 (Part 5)
2	Total Dissolved Solids	238.00	mg/L	<250	APHA 2542 (Part 5)
3	Chemical Oxygen Demand (at 170°C for 2 days)	8.00	mg/L	<250	IS 3025 (Part 5)
4	Biochemical Oxygen Demand (at 20°C for 5 days)	3.00	mg/L	<100	IS 3025 (Part 5)
5	TSS & Grease	0.4	mg/L	<10	IS 3025 (Part 5)

Remarks: **Not Applicable.**

Notes:
1. Test Results pertain only to the sample tested.
2. Standard Value: MPCL Limit.
3. Parameters marked with * are not in MPCL Limit.
4. MPCL will accept the sample only if it is less than the value of the report.
5. The content of this report shall not be reproduced, stored in a retrieval system or used in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of the organization.

For SA Enco Private Limited
Mrs. Rubina Yabbar Quality Manager
Authorized Signatory

END OF REPORT

saenco

TEST REPORT

Company Name & Address: **Birkhara Institute of Health & Sciences**
T-6, Karam, Old, Sakaria

Report No.: **SAEN/18/19/19/42/04** Sample Received Date: **18 May 2018**

Order Ref No.: **Test Report** Sampling Method: **SASD/ISD-5/01**

Collected By: **Customer** Date of Analysis: **18 May 2018**

Sample Name: **Water** Sampling Location: **STP Outlet New**

Sample Qty: **22 L** Packaging Material: **Raw Collection of Sewer Gas**

Request No.: **SAEN/18/19/19/42/04** Date of Report: **18 May 2018**

Sr. No.	Parameters	Result	Unit	Standard Value	Analysis Method
1	pH	7.22	pH	6.5-8.5	APHA 2545 (Part 5)
2	Total Dissolved Solids	120.00	mg/L	<250	APHA 2542 (Part 5)
3	Chemical Oxygen Demand (at 170°C for 2 days)	40.00	mg/L	<250	IS 3025 (Part 5)
4	Biochemical Oxygen Demand (at 20°C for 5 days)	10.00	mg/L	<100	IS 3025 (Part 5)
5	TSS & Grease	1.0	mg/L	<10	IS 3025 (Part 5)

Remarks: **Results are within MPCL Covered Limits.**

Notes:
1. Test Results pertain only to the sample tested.
2. Standard Value: MPCL Limit.
3. Parameters marked with * are not in MPCL Limit.
4. MPCL will accept the sample only if it is less than the value of the report.
5. The content of this report shall not be reproduced, stored in a retrieval system or used in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of the organization.

For SA Enco Private Limited
Mrs. Rubina Yabbar Quality Manager
Authorized Signatory

END OF REPORT

saenco

TEST REPORT

Company Name & Address: **Birkhara Institute of Health & Sciences**
T-6, Karam, Old, Sakaria

Report No.: **SAEN/18/19/19/42/05** Sample Received Date: **18 May 2018**

Order Ref No.: **Test Report** Sampling Method: **SASD/ISD-5/01**

Collected By: **Customer** Date of Analysis: **18 May 2018**

Sample Name: **Water** Sampling Location: **STP Outlet New**

Sample Qty: **22 L** Packaging Material: **Raw Collection of Sewer Gas**

Request No.: **SAEN/18/19/19/42/05** Date of Report: **18 May 2018**

Sr. No.	Parameters	Result	Unit	Standard Value	Analysis Method
1	pH	8.8	pH	6.5-8.5	APHA 2545 (Part 5)
2	Total Dissolved Solids	100.00	mg/L	<250	APHA 2542 (Part 5)
3	Chemical Oxygen Demand (at 170°C for 2 days)	20.00	mg/L	<250	IS 3025 (Part 5)
4	Biochemical Oxygen Demand (at 20°C for 5 days)	8.00	mg/L	<100	IS 3025 (Part 5)
5	TSS & Grease	0.8	mg/L	<10	IS 3025 (Part 5)

Remarks: **Results are within MPCL Covered Limits.**

Notes:
1. Test Results pertain only to the sample tested.
2. Standard Value: MPCL Limit.
3. Parameters marked with * are not in MPCL Limit.
4. MPCL will accept the sample only if it is less than the value of the report.
5. The content of this report shall not be reproduced, stored in a retrieval system or used in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of the organization.

For SA Enco Private Limited
Mrs. Rubina Yabbar Quality Manager
Authorized Signatory

END OF REPORT

saenco

TEST REPORT

Company Name & Address: **Birkhara Institute of Health & Sciences**
T-6, Karam, Old, Sakaria

Report No.: **SAEN/18/19/19/42/06** Sample Received Date: **18 May 2018**

Order Ref No.: **Test Report** Sampling Method: **SASD/ISD-5/01**

Collected By: **Customer** Date of Analysis: **18 May 2018**

Sample Name: **Water** Sampling Location: **STP Outlet New**

Sample Qty: **22 L** Packaging Material: **Raw Collection of Sewer Gas**

Request No.: **SAEN/18/19/19/42/06** Date of Report: **18 May 2018**

Sr. No.	Parameters	Result	Unit	Standard Value	Analysis Method
1	pH	8.72	pH	6.5-8.5	APHA 2545 (Part 5)
2	Total Dissolved Solids	100.00	mg/L	<250	APHA 2542 (Part 5)
3	Chemical Oxygen Demand (at 170°C for 2 days)	8.00	mg/L	<250	IS 3025 (Part 5)
4	Biochemical Oxygen Demand (at 20°C for 5 days)	5.00	mg/L	<100	IS 3025 (Part 5)
5	TSS & Grease	0.2	mg/L	<10	IS 3025 (Part 5)

Remarks: **Results are within MPCL Covered Limits.**

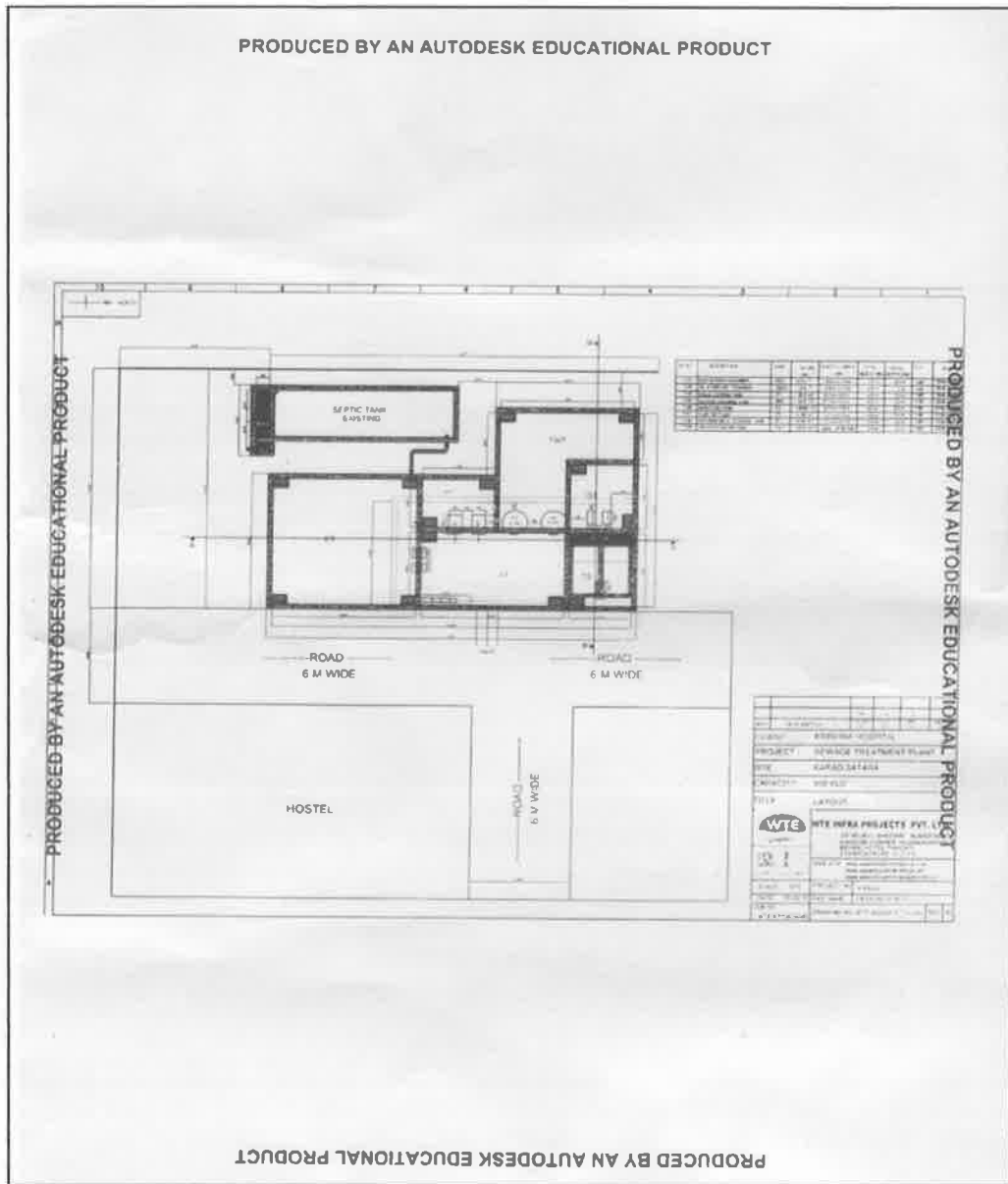
Notes:
1. Test Results pertain only to the sample tested.
2. Standard Value: MPCL Limit.
3. Parameters marked with * are not in MPCL Limit.
4. MPCL will accept the sample only if it is less than the value of the report.
5. The content of this report shall not be reproduced, stored in a retrieval system or used in any form or by any means, electronic, mechanical, photocopying, recording, or by any information storage and retrieval system, without the prior written permission of the organization.

For SA Enco Private Limited
Mrs. Rubina Yabbar Quality Manager
Authorized Signatory

END OF REPORT

Ann V : 01 of 01

Annexure VI : Schematic diagram of STP



Annexure VII : Certificate for Work done for Rain Water Harvesting & Storm Water Management

KIMSDU, Karad.

RAIN WATER HARVESTING



**KRISHNA INSTITUTE OF MEDICAL SCIENCES
"DEEMED TO BE UNIVERSITY",
S. NO. – 144-B, MALKAPUR, TAL – KARAD, DIST – SATARA.**

**KRISHNA CHARITABLE TRUST,
S. NO. – 144-B, MALKAPUR, TAL – KARAD, DIST – SATARA.**

PROJECT NAME – RAIN WATER HARVESTING (2018)-BY CIVIL DEPARTMENT
KIMSDU.DEPARTMENT NAME – CIVIL-MAINTENANCE DEPT.

Sr. No.	Building Name	Terrace area sq.m.	Water collection lac lit/year	Near Bore
1	BDS hostel	640	4.00	Bore no. 2
2	Ward no. 14,19	766	4.78	Bore no. 3




**JAGTAP.S.V.
CIVIL INCHARGE
K.I.M.S.D.U., KARAD**

Annexure VIII : 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. (Night Shift)

Krishna Institute of Medical Sciences "Deemed to Be University", Karad.										
Particular	General		Morning		Evening		Night		Total	
All Departments & OPD	184		0		0		0		184	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	72	32	0	0	0	0	0	0	72	32
All Colleges & Hostels	257		0		25		4		286	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	207	50	0	0	5	20	1	3	213	73
Patient Care	0		95		80		71		246	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	0	0	42	53	53	27	45	26	100	80
Supervisors	4		2		1		1		8	
	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	4	0	2	0	1	0	1	0	6	0
Grand Total	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female
	283	82	64	33	59	47	47	29	453	191
	365		97		106		76		644	

- 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 staff 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 curcern 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.

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.
- 6) Support administrative and management tasks.
- 7) Ensure that the Housekeeping staff is working in accordance to the hospital's rules.
- 8) Make sure that the appearance of the hospital is clean and tidy.
- 9) Maintain constant awareness of the cleanliness of the hospital.
- 10) Responsible for maintaining inventory of cleaning supplies and providing cleaning material through Housekeeping Dept. Store.
- 11) Oversee Housekeeping staff to ensure that they are properly and safely attend.
- 12) Monitor check and maintain standards of cleanliness within all areas of the Hospital on every shift basis.
- 13) To audit self check cleaning sheets daily.
- 14) To maintain a professional and helpful attitude while on duty towards patients.
- 15) Support all core unit departments.
- 16) Ensure every incident report should be reported in written.
- 17) Ensure every incident report should be reported in written.
- 18) Class IV Leave Management.
- 19) Incident reporting to AH, LVIC and AD in 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 on the 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 communication with AD, 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 mats 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 behavioural complaint of housekeeping of all classes.
- 36) Monthly Housekeeping Report submission to the management of all classes.
- 37) Proper record keeping for the record for performance and discipline issues.
- 38) Performance of conducting of all subordinate staff.
- 39) Participation with committees from MDS, JAC, JAC and JAC office.
- 40) Reporting adherence to daily, weekly and monthly reporting.
- 41) All daily inspection carried home hospital premises verified prior permission of HSK FCO, AO and Assistant Registrar.

Mr. Dhnanjay D. Patil
 Sanitary Inspector.

दिनांक = 20/8

	KIMSOU	Doc Number	KIMSOU/MAH/FOR/X
	Name Of Document	Water Tank Cleaning Checklist (दिनांक 20/8)	
	Name Of the Process/ Area	CIVIL / MAINTENANCE	

Water Tank No.	Name of water tank	date	Cleaned by	Checked by	Civil Sup. Sign
1	Main water tank	8/8/2018	समान / समान / समान	समान / समान / समान	समान
2	LHR, Hostel-I	25/8/2018	समान / समान / समान	समान / समान / समान	समान
3	B.D.S. Hostel-II	25/8/2018	समान / समान / समान	समान / समान / समान	समान
4	NRI Hostel	20/8/2018	समान / समान / समान	समान / समान / समान	समान
5	B.Sc. Nursing IV	12/8/2018	समान / समान / समान	समान / समान / समान	समान
6	B.Sc. Nursing V	13/8/2018	समान / समान / समान	समान / समान / समान	समान
7	B.Sc. Nursing VI	13/8/2018	समान / समान / समान	समान / समान / समान	समान
8	New NRI Hostel-07	11/8/2018	समान / समान / समान	समान / समान / समान	समान
9	NEW Ladies Hostel	11/8/2018	समान / समान / समान	समान / समान / समान	समान
10	Old Ladies Hostel	11/8/2018	समान / समान / समान	समान / समान / समान	समान
11	New Guest House	13/8/2018	समान / समान / समान	समान / समान / समान	समान
12	GM Guest House	22/8/2018	समान / समान / समान	समान / समान / समान	समान
13	A-Type Quarter	13/8/2018	समान / समान / समान	समान / समान / समान	समान
14	B-Wing - 1 Quarter	14/8/2018	समान / समान / समान	समान / समान / समान	समान
15	B-Wing-2 Quarter	13/8/2018	समान / समान / समान	समान / समान / समान	समान
16	D-TYPE Quarter	13/8/2018	समान / समान / समान	समान / समान / समान	समान
17	E-TYPE Quarter	20/8/2018	समान / समान / समान	समान / समान / समान	समान
18	Physiotherapy College	20/8/2018	समान / समान / समान	समान / समान / समान	समान
19	Dental College	20/8/2018	समान / समान / समान	समान / समान / समान	समान
20	Nursing Hostel-02	11/8/2018	समान / समान / समान	समान / समान / समान	समान
21	Nursing College	25/8/2018	समान / समान / समान	समान / समान / समान	समान
22	Gym	20/8/2018	समान / समान / समान	समान / समान / समान	समान
23	Cafeteria	11/8/2018	समान / समान / समान	समान / समान / समान	समान
24	Medical College	11/8/2018	समान / समान / समान	समान / समान / समान	समान
25	WARD NO.7	11/8/2018	समान / समान / समान	समान / समान / समान	समान
26	WARD NO.8	11/8/2018	समान / समान / समान	समान / समान / समान	समान
27	WARD NO.9	11/8/2018	समान / समान / समान	समान / समान / समान	समान
28	WARD NO.11	25/8/2018	समान / समान / समान	समान / समान / समान	समान
29	WARD NO.13	12/8/2018	समान / समान / समान	समान / समान / समान	समान
30	WARD NO.18	9/8/2018	समान / समान / समान	समान / समान / समान	समान
31	WARD NO.19	9/8/2018	समान / समान / समान	समान / समान / समान	समान
32	WARD NO.20	9/8/2018	समान / समान / समान	समान / समान / समान	समान
33	New P.R. Room WardX	26/8/2018	समान / समान / समान	समान / समान / समान	समान
34	UNIVERSITY OFFICE	14/8/2018	समान / समान / समान	समान / समान / समान	समान
35	VIP-ICU	12/8/2018	समान / समान / समान	समान / समान / समान	समान
36	linen Dept. (Security changing room)	09/8/2018	समान / समान / समान	समान / समान / समान	समान
37	Power House	22/8/2018	समान / समान / समान	समान / समान / समान	समान
38	Dept. Office (X-Ray Ter.	23/8/2018	समान / समान / समान	समान / समान / समान	समान

Name of the Supervisor		Name of the Inspector		Date		Page No.	
[Signature]		[Signature]		20/8/2018		1	
K.RISHNA INSTITUTE OF MEDICAL SCIENCES DEEMED UNIVERSITY, KARAD.							
DAILY REPORT							
Sl. No.	Area	Inspected by	Inspector	Remarks	Time	Signature	Initials
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Ann VIII : 02 of 02

Annexure IX: Sample Documentation maintained for BMW

Dept. : Biomedical Waste Management
Record : Monthly Biomedical Waste Incinerated
Month : May 2018

Type Of Bio Medical Waste	Kg/ month
Human Anatomical Waste (Cat 1)	328 Kg
Microbiology & Biotechnology Waste (Cat 3)	314 Kg
Soiled Waste (Cat 6)	2049 Kg
Total	2633 Kg

Dept. : Biomedical Waste Management
Record : Monthly Biomedical Waste Incinerated
Month : June 2018

Type Of Bio Medical Waste	Kg/ month
Human Anatomical Waste (Cat 1)	300 Kg
Microbiology & Biotechnology Waste (Cat 3)	335 Kg
Soiled Waste (Cat 6)	2280 Kg
Total	2915 Kg

Ann IX : 01 of 03

Dept. : Biomedical Waste Management
Record : Monthly Biomedical Waste Incinerated
Month : July 2018

Type Of Bio Medical Waste	Kg/ month
Human Anatomical Waste (Cat 1)	348 Kg
Microbiology & Biotechnology Waste (Cat 3)	305 Kg
Soiled Waste (Cat 6)	2772 Kg
Total	3425 Kg

Dept. : Biomedical Waste Management
Record : Disinfected Biomedical Waste
Month : May 2018

Type of Biomedical Waste	Kg/ month
Disinfected Plastic Bottles	573 Kg
Disinfected Gloves	813 Kg
Disinfected I.V. Sets	701 Kg
Disinfected Glass Bottles	848 Kg
Disinfected Syringes	301 Kg
Total	3236 Kg

Ann IX : 02 of 03

Dept. : Biomedical Waste Management

Record : Disinfected Biomedical Waste

Month : June 2018

Type of Biomedical Waste	Kg/ month
Disinfected Plastic Bottles	514 Kg
Disinfected Gloves	767 Kg
Disinfected I.V. Sets	631 Kg
Disinfected Glass Bottles	782 Kg
Needles	51 Kg
Disinfected Syringes	291 Kg
Total	3036 Kg

Dept. : Biomedical Waste Management

Record : Disinfected Biomedical Waste

Month : July 2018

Type of Biomedical Waste	Kg/ month
Disinfected Plastic Bottles	747 Kg
Disinfected Gloves	817 Kg
Disinfected I.V. Sets	624 Kg
Disinfected Glass Bottles	766 Kg
Needles	72 Kg
Disinfected Syringes	286 Kg
Total	3312 Kg

Ann IX : 03 of 03


Annexure X : The Disposal of E-Waste is documented by the Concerned Department


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Old Out of Use Material In Power House


Power House - Electrical Material list 11/02/2019				
Sr no	Pannel Description	Make	Unit	Qty
	250 KVA Transformer			
1	Sr. No. UT - 81FD-070-703	Kirloskar	Nos	1
2	Sr. No. 81FD-070/121	Kirloskar	Nos	1
3	Sr. PE 2K 1299	Power Engineers	Nos	1


S. C. Paril

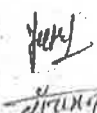

 Store Dept


 Security Dept

All material checked & sent to further disposal process.


 ELECTRICAL ENGINEER
 KIMSDU, KARAD


 Electrical Department
 KIMSDU, KARAD


 [Signature]

Annexure XI : Report showing unit Consumption from Electricity sourced from MSEDCL & from Own Solar Power Grid

Dept. : Power House (Electricity consumption sourced from MSEDCL)

Year : 2018

MSEDCL		
Year 2018		
Sr. no.	Month	MSEDCL Unit Consumed
1	May-18	393323
2	Jun-18	332145
3	Jul-18	314145

Dept. : Power House (Electricity consumption sourced from 'Solar Power Grid')

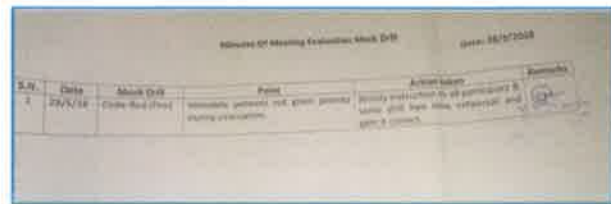
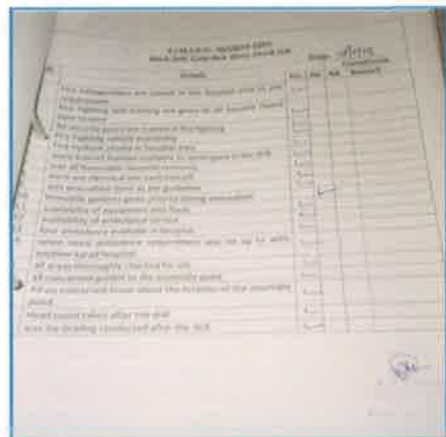
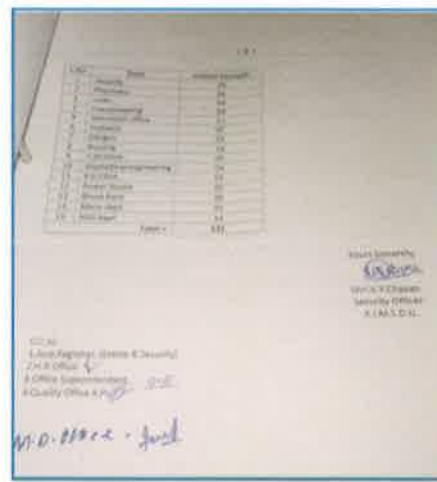
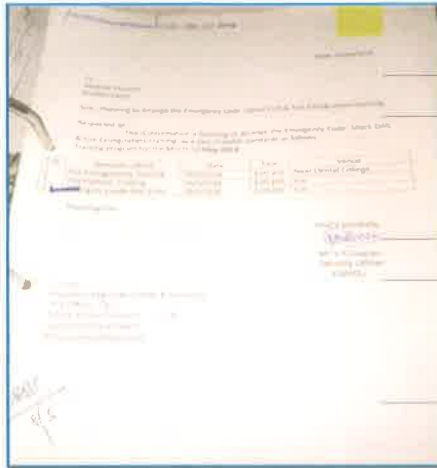
Year : 2018

Solar Power Grid		
Year 2018		
Sr. no.	Month	Unit Consumed
1	May-18	393323
2	Jun-18	332145
3	Jul-18	314145

Annexure XII : Fire Mock Drills & Training

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

Date : 28/05/2018



Ann XII : 01 of 06

KIMS D U SECURITY DEPT
Mock Drill Code Red (Fire) Briefing Report
 Date: 28/5/2018

Details

1. At the Assembly point following all person and given instructions to all about indoor, group & correct situation.
2. Main power distributed in various groups.
3. Each group has distributed their responsibilities in code red (FR).
4. Every participant to wear eye safety goggles.
5. Evacuate the patient safely from Ward & give them to safe place.

KIMS D U SECURITY DEPT
Mock Drill Code Red (Fire) De-Briefing Report
 Date: 28/5/2018

Details

1. Immobile patient not given priority during evacuation.
2. Every participant has done their given responsibility.
3. Every participant done hard work & use commonsense during code red (fire) activation.
4. Over all Code red (fire) drill was good in future also will do the very good job.

A minute by minute detail sheet of code red (fire) Mock Drill.

26/5/2018	Date of code Activation
15.00 hrs	Code Red (FR) activation time
15.02 hrs	No. of staff present the information to all security guard know who are on duty during code red (fire) mock drill.
15.02 hrs	Show the fire for 45 second (code red for fire)
15.04 hrs	Security guard has reported at main gate during this time fire fighter vehicle and ambulance also reported at assembly point no. 1 near main gate.
15.06 hrs	No. of staff briefed to prevent security guard about prevention of accident & any fire fighting material.
15.07 hrs	Some information given in assembly no. 2 to prevent hospital staff.
15.08 hrs	Assembly no. 1 & 2 found person falling by at M.L.3 assembly point & distributes the train person, in various different parties and gave them task.
15.15 hrs	All distribute fire fighting party reached the incident place.
15.20 hrs	All Fire fighting party they started their task and they complete fire task within the time.
15.30 hrs	After completion of mock drill.
15.40 hrs	All participant staff has falling for debriefings of mock drill.

TRAINING RECORD
 Name: V. V. Prasad, U.S.G

No.	Name of Trainee	Particular of Personnel	Training Method	Observation/Remarks	Remarks
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Remarks: Grade A: Training Conducted effectively
 Grade B: Training not conducted effectively
 Grade C: Training Conducted for sufficient duration
 Grade D: Training Conducted for insufficient duration
 Grade E: All trainees present
 Grade F: Training not conducted

TRAINING RECORD
 Name: V. V. Prasad, U.S.G

No.	Name of Trainee	Particular of Personnel	Training Method	Observation/Remarks	Remarks
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Remarks: Grade A: Training Conducted effectively
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 Grade D: Training Conducted for insufficient duration
 Grade E: All trainees present
 Grade F: Training not conducted

TRAINING RECORD
 Name: V. V. Prasad, U.S.G

No.	Name of Trainee	Particular of Personnel	Training Method	Observation/Remarks	Remarks
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Remarks: Grade A: Training Conducted effectively
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TRAINING RECORD
 Name: V. V. Prasad, U.S.G

No.	Name of Trainee	Particular of Personnel	Training Method	Observation/Remarks	Remarks
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Remarks: Grade A: Training Conducted effectively
 Grade B: Training not conducted effectively
 Grade C: Training Conducted for sufficient duration
 Grade D: Training Conducted for insufficient duration
 Grade E: All trainees present
 Grade F: Training not conducted

TRAINING RECORD
 Name: AGRI 114
 Location: Embrayong, Agri. Expt. Sta.

No.	Name of Trainee	Signature of Trainee	Training Period	Grade	Remarks
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Remarks: Grade A: Training Conducted effectively
 Grade B: Training not conducted effectively
 Grade C: Training Conducted for software system
 Grade D: Training Conducted for hardware system
 Grade E: All topics covered
 Grade F: Training incomplete

TRAINING RECORD
 Name: AGRI 114
 Location: Embrayong, Agri. Expt. Sta.

No.	Name of Trainee	Signature of Trainee	Training Period	Grade	Remarks
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Remarks: Grade A: Training Conducted effectively
 Grade B: Training not conducted effectively
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 Grade D: Training Conducted for hardware system
 Grade E: All topics covered
 Grade F: Training incomplete

TRAINING RECORD
 Name: AGRI 114
 Location: Embrayong, Agri. Expt. Sta.

No.	Name of Trainee	Signature of Trainee	Training Period	Grade	Remarks
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Remarks: Grade A: Training Conducted effectively
 Grade B: Training not conducted effectively
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 Grade D: Training Conducted for hardware system
 Grade E: All topics covered
 Grade F: Training incomplete

TRAINING RECORD
 Name: AGRI 114
 Location: Embrayong, Agri. Expt. Sta.

No.	Name of Trainee	Signature of Trainee	Training Period	Grade	Remarks
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Remarks: Grade A: Training Conducted effectively
 Grade B: Training not conducted effectively
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TRAINING RECORD
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 Location: Embrayong, Agri. Expt. Sta.

No.	Name of Trainee	Signature of Trainee	Training Period	Grade	Remarks
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 Grade F: Training incomplete

TRAINING RECORD
 Name: AGRI 114
 Location: Embrayong, Agri. Expt. Sta.

No.	Name of Trainee	Signature of Trainee	Training Period	Grade	Remarks
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Remarks: Grade A: Training Conducted effectively
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 Grade E: All topics covered
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TRAINING RECORD
 Name: AGRI 114
 Location: Embrayong, Agri. Expt. Sta.

No.	Name of Trainee	Signature of Trainee	Training Period	Grade	Remarks
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Remarks: Grade A: Training Conducted effectively
 Grade B: Training not conducted effectively
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 Grade E: All topics covered
 Grade F: Training incomplete

TRAINING RECORD
 Name: AGRI 114
 Location: Embrayong, Agri. Expt. Sta.

No.	Name of Trainee	Signature of Trainee	Training Period	Grade	Remarks
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Remarks: Grade A: Training Conducted effectively
 Grade B: Training not conducted effectively
 Grade C: Training Conducted for software system
 Grade D: Training Conducted for hardware system
 Grade E: All topics covered
 Grade F: Training incomplete

Ann XII : 03 of 06

TRAINING RECORD				
Sl. No.	Name of Participant	Signature of Participant	Training Institute	Performance Assessment
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Remarks: Grade A: Training conducted effectively
 Grade B: Training not conducted effectively
 Grade C: Training conducted by sufficient duration
 Grade D: Training conducted by insufficient duration
 Grade E: All topics covered
 Grade F: Training not conducted

TRAINING RECORD				
Sl. No.	Name of Participant	Signature of Participant	Training Institute	Performance Assessment
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Remarks: Grade A: Training conducted effectively
 Grade B: Training not conducted effectively
 Grade C: Training conducted by sufficient duration
 Grade D: Training conducted by insufficient duration
 Grade E: All topics covered
 Grade F: Training not conducted



Ann XII : 04 of 06

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


Date : 20/07/2018

Planning to arrange the Emergency Code - Mock Drill & Fire Hydrant Training

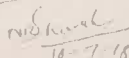
This is information & planning to conduct the Emergency Code- Mock Drill & Fire Hydrant Training program for the Month of July-2018

S.N	Activity	Date	Time	Venue
1	Emergency Code- Mock Drill	20/07/2018	2.00 pm	K.M.
2	Fire Hydrant Training	20/07/2018	3.00 pm	K.M.
3	Emergency Code - Mock	24/07/2018	2.00 pm	K.M.

Thanking You.

Yours sincerely,

 Mr. V.V. Chavan,
 Security Officer
 KIMSUDU

C.C to:
 Assistant Registrar (State & Security)
 H.R. Office - 2
 Office Superintendent, Mysore
 Quality Office K.H.
 All concerned Dept/Off.

Received

 16-7-18

Copy Distribution to following Dept.
 Planning to Arrange the Emergency Code- Mock Drill & Fire Hydrant Training
 Month of July - 2018
 Date: 20/07/2018

S.N	Department	Sign
1	Microbiology	
2	Transport	
3	Cell Office	
4	Cell Maintenance	
5	Admission Office	
6	Medical College	
7	Nursing College	
8	Nursing Office	
9	Guest House	
10	Sanitary Bazar	
11	Laundry Dept	
12	Blood Bank	
13	Medical Record Dept.	
14	C.M. Store	
15	Dental College	
16	Pharmacy College	
17	Linen	
18	Garden	
19	Medical college (common pool)	
20	Bio-medical waste (BAMW)	
21	Bio-Medical Engineering	
22	physiotherapy College	
23	Guest House	
24	Stadium Sports Gym	
25	Casualty Dept.	
26	Photography Dept.	
27	Hospital Wards	
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To: The Medical Director, KIMSUDU, Mysore


Subject: About the arrangement of Fire Hydrant training

Requested for:

With the above mentioned subject Fire Hydrant training was held on 20/07/2018 at 7 pm for the staff of KIMSUDU.

The Fire Hydrant training has been arranged for to include all staff of KIMSUDU. And one of the training is the mock drill for fire. Such type of training was arranged once in three months.

It is requested for 47 persons who were from KIMSUDU staff gathered an assembly hall and their presence in the hall was noted by the staff of KIMSUDU. And the fire hydrant training was held at 7 pm. In the hall, the staff of KIMSUDU were present. After the training, the staff of KIMSUDU were present and their names were noted by the staff of KIMSUDU.

Yours sincerely,

 Mr. V.V. Chavan,
 Security Officer
 KIMSUDU

C.C to:
 1 Asst Registrar (State & Security)
 2 HR Office
 1 Office Superintendent
 4 Quality Office K.H.

16/7/18

TRAINING RECORD

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Remarks:
 1. Grade 1 Training conducted effectively
 2. Grade 2 Training conducted effectively
 3. Grade 3 Training conducted for sufficient duration
 4. Grade 4 Training conducted for sufficient duration
 5. Grade 5 Training conducted
 6. Grade 6 Training conducted

Ann XII : 05 of 06

TRAINING RECORD			
No.	Name of Trainee	Signature of Trainee	Signature of Instructor
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Ann XII : 06 of 06