



INDIAN INSTITUTE OF TECHNOLOGY PALAKKAD

GLOBAL SANITATION CENTRE OF EXCELLENCE

Laboratory Infrastructure

Basic



- Microbalance
- Autoclave
- De-Ionizer Unit
- Centrifuge
- Total Suspended Solids Apparatus
- Turbidity Meter
- Magnetic Stirrer
- pH Meter
- Hot Air Oven
- Muffle Furnace
- Jar Test Apparatus
- Ice Flaker Machine
- Ultrapure Water Purification system
- High Vacuum Pump
- Heating Mantle

Intermediate



- Sonicator
- Bacteriological Incubator
- Colony Counter
- COD Digestor
- UV Vis Spectrophotometer
- Orbital Shaker & Incubator
- Vortex shaker
- Fume Hood
- Electrothermal Heater
- Ultra low Temperature Freezer
- Stack Monitoring Equipment
- Noise meter
- Roto spin




Advanced



- Biosafety Class II Cabinet
- Bacteriological Incubator
- Gas Chromatography - FID, TCD & Headspace Sampler
- CHNS-O Analyzer
- Bomb Calorimeter
- ICP - OES with MPS
- TKN Analyzer
- Optical Microscope
- Microwave Digestion System
- Xray Fluorescence Spectroscopy
- Fourier Transform Infrared Spectroscopy

Laboratory Services

Services we provide for testing of wastewater, biosolids and septage:

Physical	Chemical	Biological
 <ul style="list-style-type: none">● Temperature● Electrical Conductivity● Total Dissolved Solids● Total Suspended Solids● Total Solids● Turbidity● Moisture Content● Calorific Value	<ul style="list-style-type: none">● pH● Alkalinity● Biochemical Oxygen Demand● Chemical Oxygen Demand● Total Kjeldahl Nitrogen● Ammonia Nitrogen● Total Nitrogen● Total Organic Carbon● Total Phosphorus● Anions Sulphates, Chlorides, Nitrates, Nitrites● Cations Magnesium, Calcium, Iron, Manganese● Elemental Analysis Carbon, Hydrogen, Nitrogen, Sulphur, Oxygen● Heavy Metals Arsenic, Cadmium, Chromium, Copper, Mercury, Nickel, Lead, Zinc, Sodium, Selenium, Argon, Silver, Gold, Potassium, Tin, Vanadium	  <ul style="list-style-type: none">● Total Coliform● Faecal Coliform● Helminths Identification● Helminths Enumeration

Laboratory Charges

S. No.	Analytical Parameters	Internal Charges	Internal Charges	External Charges	External Charges
		IIT Palakkad Students	IIT Palakkad Faculty	Academic Institutions	Industries & Others
		(Cost per sample)	(Cost per sample)	(Cost per sample)	(Cost per sample)
1	Colour	150	180	210	375
2	Odour	150	180	210	375
3	Temperature	150	180	210	375
4	Conductivity	150	180	210	375
5	pH	150	180	210	375
6	Turbidity	150	180	210	375
7	Sludge Volume Index (SVI)	250	300	350	625
8	Settleable Solids	250	300	350	625
9	Total Solids	300	360	420	750
10	Total Fixed Solids	300	360	420	750
11	Total Suspended Solids	500	600	700	1250
12	Total Volatile Solids	300	360	420	750
13	Volatile Suspended Solids	500	600	700	1250
14	Total Dissolved Solids	300	360	420	750
15	Chemical Oxygen Demand (COD)	1000	1200	1400	2500
16	Biochemical Oxygen Demand (BOD)	1050	1260	1470	2625
17	Ammonical Nitrogen	1250	1500	1750	3125
18	Total Nitrogen				
19	Total Kjeldahl Nitrogen				
20	Nitrite as NO ₂	750	900	1050	1875
21	Nitrate as NO ₃	750	900	1050	1875
22	Total Phosphorous	750	900	1050	1875
23	Total Chloride	500	600	700	1250
24	Total Hardness	500	600	700	1250
25	Hardness - Calcium	500	600	700	1250
26	Hardness - Magnesium	500	600	700	1250
27	Acidity	250	300	350	625
28	Chlorine Demand	200	240	280	500
29	Chlorine Residual	300	360	420	750
30	Sulphate	300	360	420	750
31	Salinity	200	240	280	500
32	Iron	500	600	700	1250
33	Fluoride	500	600	700	1250
34	E.coli (MPN count)	1000	1200	1400	2500
35	E.coli (Colony count)	1000	1200	1400	2500
36	Coliform (MPN count)	1000	1200	1400	2500
37	Coliform (Colony count)	1000	1200	1400	2500
38	Helminth eggs Enumeration - Liquid	2200	2500	2800	3400
39	Helminth eggs Enumeration - Solid	4600	5200	5800	7200

Testing of samples		Internal Charges		Internal Charges		External Charges Academic Institutions (Cost in INR per sample)		External Charges Industries (Cost in INR per sample)	
Instruments	Parameters	IIT Palakkad Students		IIT Palakkad Faculty		External Charges Academic Institutions (Cost in INR per sample)		External Charges Industries (Cost in INR per sample)	
		Liquid Sample Cost /Sample (INR)	Remarks	Liquid Sample Cost /Sample (INR)	Remarks	Liquid Sample Cost /Sample (INR)	Remarks	Liquid Sample Cost /Sample (INR)	Remarks
ICP-OES	Heavy Metals (Ag, Al, B, Ba, Bi, Ca, Cd, Co, Cr, Cu, Fe, Ga, In, K, Li, Mg, Mn, Na, Ni, Pb, Sr, Tl, Zn)	500	INR 150 additional for each element INR 250 for Microwave Digestion per solid sample	600	INR 150 additional for each element INR 250 for Microwave Digestion per solid sample	700	INR 150 additional for each element INR 250 for Microwave Digestion per solid sample	1250	INR 150 additional for each element INR 250 for Microwave Digestion per solid sample
TOC Analyzer	Total Organic Carbon (Liquid/Solid)	1000		1200		1400		2500	
Ion Chromatography	Anions - Fluoride, Chloride, Chlorate, Nitrite, Nitrate, Bromide, Phosphate, Sulphate. Cations - Lithium, Sodium, Ammonium, Potassium, Calcium, Magnesium.	2000	INR 1000 additional for sample preparation	2400	INR 1000 additional for sample preparation	2800	INR 1000 additional for sample preparation	5000	INR 1000 additional for sample preparation
CHNS Analyzer	% Carbon, Hydrogen, Nitrogen and Sulphur	1600		1920		2240		4000	
Oxygen Analyzer	% Oxygen	2000		2400		2800		5000	
Bomb Calorimeter	Calorific Value (Liquid/ Solid)	1000		1200		1400		2500	
Gas Chromatography	Gaseous Components (CO, CO2, H2S, H2, N2, CH4)	1000		1200		1400		2500	
Fourier Transform Mid Infrared Spectroscopy	Environmental Sample Characterization	750		900		1050		1875	

Drinking Water Standard Package - BIS - 10500:2013

Physical Parameters	Chemical Parameters	Toxic Substances	Bacteriological Parameters
<ul style="list-style-type: none"> ● Color ● Odor ● pH ● Turbidity ● Total dissolved Solids 	<ul style="list-style-type: none"> ● Ammoniacal Nitrogen ● Hardness - Calcium ● Hardness - Magnesium ● Fluoride ● Residual Chlorine ● Nitrate ● Sulphate ● Alkalinity ● Total Hardness 	<ul style="list-style-type: none"> ● Aluminum ● Barium ● Boron ● Copper ● Iron ● Manganese ● Selenium ● Silver ● Zinc ● Cadmium ● Lead ● Mercury ● Nickel ● Arsenic ● Chromium 	<ul style="list-style-type: none"> ● E.coli (MPN Count) ● Coliform (MPN Count)

Internal Charges - IIT Palakkad Students (Cost in INR/sample)	Internal Charges - IIT Palakkad Faculty (Cost in INR/sample)	External Charges - Academic Institutions (Cost in INR/sample)	External Charges - Industries & Others (Cost in INR/sample)
10850	13020	15190	27125

National Green Tribunal - STP Discharge Standards 2019

Physical Parameters	Chemical Parameters	Bacteriological Parameters
<ul style="list-style-type: none"> ● Total Suspended Solids 	<ul style="list-style-type: none"> ● pH ● Biochemical Oxygen Demand ● Chemical Oxygen Demand ● Total Nitrogen ● Total Phosphorous 	<ul style="list-style-type: none"> ● E.coli (MPN Count)

Internal Charges - IIT Palakkad Students (Cost in INR/sample)	Internal Charges - IIT Palakkad Faculty (Cost in INR/sample)	External Charges - Academic Institutions (Cost in INR/sample)	External Charges - Industries & Others (Cost in INR/sample)
5700	6840	7980	14250

Contact

For further information, please feel free to contact us

Global Sanitation Centre of Excellence

IIT Palakkad

Regd. Office: 31, Kanjikode West, Nila Campus,
Palakkad, Kerala-678623

Email: office_gscoe@iitpkd.ac.in

Phone: +91 9600004594