Constancy Research & Testing Services (CRTS)

Department of Civil Engineering
Khulna University of Engineering & Technology
Khulna-9203, Bangladesh

Rates for Testing of Materials and Services

Rates include VAT (unless otherwise specified), Effective from **March 01, 2019**

(Department of Civil Engineering reserves the right to change the rates at any time without any prior notice)

Contact: Prof. Dr. Md. Rokonuzzaman, Chairman, CRTS (Civil)
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Office Time: Sun to Thurs (9.00 am- 5.00 pm)

Sl. No.	Name of Test	Rate (BDT)
	Aggregates	
1	Sieve analysis/Gradation/FM (CA)	5500
2	Sieve analysis/Gradation (Base/sub-base)	9000
3	Sieve analysis/Gradation/FM (Ballast)	7500
4	Sieve analysis/FM (FA)	4500
5	% finer than #200 sieve/Fine content/Silt content	3200
6	Aggregate Crushing Value (ACV)	6500
7	Aggregate Impact Value (AIV)	5200
8	Ten percent fines (10% fines)	10000
9	Angularity number	5000
10	Elongation Index (EI)/Shape test	7000
11	Flakiness Index (FI)	7000
12	L.A. Abrasion (CA)	7200
13	L.A. Abrasion of Ballast	7000+500*
14	Unit weight of aggregate (CA)	4500
15	Unit weight of aggregate (FA)	4000
16	Soundness with Na_2SO_4	18000+4000*
17	Soundness with Mg_2SO_4	18000+4000*
18	Absorption and/or Specific Gravity	6200
19	Clay lump & friable particles	5700
20	Moisture content	2800
21	Percentage of uncrushed particle (Fractured Face)	8200
22	Mica Content For fine sand using microscope	25000
23	Mica Content For fine sand /CA by visual observation	15000
24	Effect of Organic impurities	18000+1200*
25	Organic impurities/Salt content/Sulphate content/Salinity	3000+500
26	Bulking of sand	5000
27	Void Ratio/ Porosity/ Moh. Hardness	5500
28	CBR of Base and Sub-base material (lab.)	55000+500*
29	Standard Proctor test of aggregate (MDD)	22000
30	Modified Proctor Test	35000
31	Coal & lignite	4700+1000*
32	Soft fragment	5700
33	Shell and Chert	4700+1000*
34	Combined F.M.	8000
35	Wash sieve analysis / Material Finer than 200	3200
36	Alkali-Silica-Reaction	50000
	Bricks	
1	Absorption (ASTM/BS)	2200/4200
2	Crushing strength (ASTM/BS standard)	4200/7200
3	Size & shape (ASTM/BS)	3200/3200
4	Unit weight (ASTM/BS)	4200/5200
5	Efflorescence	4200
6	Acid resistance (Vitriol)	5500
7	Initial rate of absorption/suction	3400
	Hollow/Special Brick Blocks/Kerb	
8	Comp. Strength of Hollow bricks, Paving/ Concrete blocks etc.	3200
9	Compressive strength of Road Kerb Stone	4200
10	Absorption	2200
11	Unit weight	4200
12	Comp. Strength of Hollow bricks, Paving/ Concrete blocks etc including unit wt.	5000
	Bitumen	
1	Specific gravity/Density	4500
2	Penetration / Grading	4500
3	Naptha Xylene Equivalent	20000
4	Flash & Fire points	4500
5	Solubility	4200+200*
6	Ductility	4000+200*
7	Softening point (R&B)	4200+200*
8	Thin Film Oven/Loss on heating	5200
9	Float test	4200
10	Foaming Test	4200
11	Spot Test	4200
12	Viscosity, Saybolt Furol (S.F.)	8000
13	Viscosity (Kinematic)	11000
14	Viscosity (absolute/dynamic)	18000
15	Inorganic matter/ Ash Content	8300+200*
16	Any test on residue form Loss on heating test/TFOT (if TFOT/LOH included separately	8000
17	Any test on residue form Loss on heating test/TFOT (if TFOT/LOH not included separately	13000
18	Any test on residue form Thin Film Oven test	13000
19	Coating and Stripping test	5200
20	Asphalt Concrete mix design (Marshall)	75000
21	Particle Charge Test of Bitumen Emulsion	5500
22	Distillation	6500
23	Compressive strength of core cutting sample (each)	4500+200*
	Asphalt or Bituminous Material/Pavement Core	
24	Bitumen content	12000+4000*
25	Water Content	10000
26	Theoretical Max. Sp. Gr. A.C.	7000
27	Density	3200
28	Marshall stability and flow test	6000
29	In-situ core cutting (each sample)	10000+SA
30	JOB mix Formula & Marshall test	110000

Sl. No.	Name of Test	Rate (BDT)
31	TSR (Tensile Strength Ratio) Test	75000
	RCC pipes and Manhole Covers	
1	Pipes (dia upto 600mm)	7000
2	Pipes (dia above 600mm and upto 900mm)	7500
3	Pipes (dia above 900mm and upto 1200mm)	10000
4	Pipes (dia above 1200mm and upto 1524mm)	12000
5	In-situ pipe testing	8000+SA
6	Steel / PVC Strainer pipe (Dimension, Slot Size, Strength, % open Area)	5000
7	Load test on manhole covers (<18 inch or 450 mm dia)	7200
8	Load test on manhole covers (<18 inch or 450 mm dia)	7900
	Cement Concrete	
1	Concrete cylinders (100 mmX200 mm), for a set of 3 nos.	2200
2	Concrete cylinders (150 mmX300 mm), for a set of 3 nos.	3500
3	Cubes (<200 mm), for a set of 3 nos.	3200
4	Cubes (200mm-300mm), for a set of 3 nos.	3800
5	Cubes (>300 mm), each core cutting and testing	6500+300*
6	Concrete Spun, for a set of 3 nos.	3000
7	Concrete beam in flexure, for a set of 3 nos.	8000
8	Concrete slab in flexure, for a set of 3 nos.	10000
9	Concrete cylinders (casting & testing), for each set of 3 nos.	20000
	Concrete Mix Designs	
10	Design of concrete mixes without admixtures (up to 25 MPa)	65000
11	Design of concrete mixes with admixtures (up to 25 MPa)	70000
12	Design of concrete mixes without admixtures (30 MPa)	70000
13	Design of concrete mixes with admixtures (30 MPa)	78000
14	Design of concrete mixes with admixtures (35 and 40 MPa)	88000
15	Design of concrete mixes with admixtures (45 and 50 MPa)	100000
16	Design of concrete above 50 MPa, consult with Chairman	--
	Destructive and NDT Tests	
17	In-situ core cutting & Testing (without scanning) per core	10000+400+SA
18	In-situ core cutting & Testing (with quick scanning) per core	12000+400+SA
19	In-situ hammer test (per point/location) (min 3 tests)	10000+SA
20	In-situ Winsor Pin test (per point/location) (min 3 tests)	5000+SA
21	In-situ scanning (quick and image) (per point/location) (for 2 scans)	8000+SA
22	In-lab block/Kerb per core cutting & testing	5500+300
23	In-lab supplied core cutting testing (per core)	2200+300
24	Ultrasonic Pulse Velocity (UPV) test (per Spot)	10000+SA
25	Split Cylinder	2500
	Cement (ASTM/AASHTO Standard)	
1	Compressive strength, 3 or 7 or 28 days	3000+300*
2	Setting time and/or normal consistency	4000
3	Fineness	3000
4	Density/Sp.Gr./Unit Weight	4000
5	Weight of cement bag (each full bag)	500
6	Soundness	10000
7	Tensile Strength , 3 or 7 or 28 days	3000+500
	Cement (EN Standard)	
8	Compressive strength, 2 and 28 days	22000+600*
9	Compressive strength, 2, 7 and 28 days	33000+900*
	Concrete Admixtures (ASTM)	
1	Infrared Analysis per sample	25000
2	Residue by oven drying per sample	8000
3	Specific gravity per sample	10000
4	Slump or Slump retention for each retention period	100000
5	Air content in fresh concrete for each retention period	200000
6	Water content, max, % of control	60000
7	Setting time (for concrete), Initial and Final	200000
8	Compressive strength, % of control (with mix design, for a specific concrete class and same cement content):	
	7 days+ 28 days(Mandatory)	140000
	1 day+ 3 days	50000
	6 months+1 year	100000
9	Compressive strength, % of control (no mix design):	
	1 day	20000
	3 days	20000
	7 days	20000
	28 days	20000
	6 months	50000
	1 year	100000
10	Flexural strength, % of control (with mix design, for a specific concrete class and same cement content):	
	7 days+ 28 days(Mandatory)	150000
	3 days	50000
11	Flexural strength, % of control (no mix design):	
	3 days	50000
	7 days	50000
	28 days	50000
12	Length change /shrinkage, % of control	100000
13	Relative durability	300000
	Calibration	
1	Pressure gauge/Dial gauge	5200
2	Hydraulic Jack (calibration range up to 300 ton) with Pressure Gauge	25000
3	Hydraulic Jack (calibration range up to 1000 ton) with Pressure Gauge	--
4	Deflection dial	3500
5	Proving ring (<100 kN)	5000
6	Proving ring (100 - 500 kN)	6000
7	Proving ring (>500 kN)	7500
8	Dynamometer	10000
9	Compression/Tension Testing Machine	15000+SA (One dial)
10	CST Machine	15000+SA
11	Calibration of concrete mix batching plant (For five scales)	300000
	Balance and weight	
12	Electronic Balance upto 20kg/Platform scale/Triple beam balance	9000
13	CA measuring potable fara/measuring cub	4500

Sl. No.	Name of Test	Rate (BDT)
14	Schmidt Hammer (Rebound)	11000
15	Weight <2kg / Load Cell (weight box 17800)	8500
16	Balance upto 300kg	14000
17	Balance above 300kg to 1000kg	18000
18	Balance above 1000kg	25000
19	Water Meter	14500
20	Digital stop watch	4000
21	Weight Bar	17500
22	Portable weighing bridge	16000
Cement Testing Apparatus		
23	Mixture machine (Mortar Cube & Setting)	9000
24	Blaine apparatus/Jolting table/Vibrating machine	12000
25	Vicat apparatus	7000
26	Cement autocleave machine	9000
27	Cylinder/cube mold /Slump cone	2500
28	Curing tank	6000
29	pH meter/ Stopwatch	2200
30	Measuring cylinder	2200
Survey Equipment		
31	Theodolite	15000
32	Level	11000
33	Total Station	40000
Miscellaneous Equipment / Devices		
34	Vernier scale/micro meter/Slide calipers	2200
35	Steel scale/tape	2200
36	Thermometer	3200
37	Sieve per piece	3500
38	Tacheometer	14000
39	Volumetric flask/mug/jar	2200
40	Pipette	2200
41	Glass thermometer	5000
42	Digital Hygrometer	5000
43	ACV Machine	15000+SA
45	Flakiness gauge	6000
46	Rockwell Hardness Tester	12000
47	CBR Mold	2200
48	Hydrometer	8000
49	Marsh Funnel	3000
50	Compaction Mold	2200
51	LA Machine	15000+SA
52	Mud Balance	5000
53	Pycnometer	3000
54	Sand content kit	5000
55	Spirit level	5000
Rod/HT Wire/Bolt/Angle/Plate		
1	Tension test Including Unit wt. & elongation (up to 25mm)	2400
2	Tension test Including Unit wt. & elongation (above 25 mm up to 32mm)	3200
3	Tension test Including Unit wt. & elongation (above 32mm & upto 50mm)	7000+1000*
4	Tension test Including Unit wt. & elongation (above 50mm)	7000+1500*
5	Bend test (upto 25mm)	1000
6	Bend test (above 25mm)	1200
7	Rebend test (upto 25mm), (including Bend)	1600
8	Rebend test (above 25mm), (including Bend)	1800
9	Deformation measurement	2500

Sl. No.	Name of Test	Rate (BDT)
10	Stress-strain curves (Modulus of Elasticity) for strand	10000
11	Stress-strain curves (Modulus of Elasticity) for Rod	8000
12	Shear Test for rod	2000
13	Shaft rod <30mm	3000
14	Shaft rod >30mm <50mm	4000+2000
15	Shaft rod >50mm	4500+2000
16	H. T. Wire tension test	7500
17	Strand/Cable Tension Test	14000
18	Bond/ Weld Test/Rod lapping Test	5200
19	Welded MS bar Tension test (as per MS bar rate X2 times)	5200
20	Coupler upto 32mm for a set of 1 no	2500
21	Coupler above 32mm for a set of 1 no	3000
22	Anchor bolt/hooks tension test (up to 25mm)	4000+1000*
23	Anchor bolt/hooks tension test (above 25mm)	5000+1000*
24	Bolt tension or proof load test (up to 25 mm)	3500
25	Bolt tension or proof load test (above 25 mm)	5000+1000*
26	Anchor bolt/hooks shear test (upto 25mm)	2000
27	Anchor bolt/hooks shear test (above 25mm)	3000+1000*
28	Angle/plate/sheet pile/joist tension test (upto 16mm)	2500+1000*
29	Angle/plate/sheet pile/joist tension test (above 16mm upto 30mm)	3000+1000*
30	Angle/plate/sheet pile/joist tension test (above 30mm)	3000+1000*
31	sheet pile/joist wt. per meter & thickness	2000+1000*
32	sheet pile/joist section modulus / moment of inertia	15000+1000*
33	Hardness (Rockwell)	2500+500*
34	Impact test for a set of 3 nos	2500+1000*
35	Scaffolding/Steel props/Jog	9500
36	Steel Sleeper	5700+800*
37	Transverse Breaking load of rail (for a set of 1 no)	22000
38	Tension test of fibre glass strainers/pipes	4500
39	Fiber glass compression test (for a set of 1 no)	2000
40	Spring test	3000
41	Aluminum Column, Compression test (lc 2000)	8500+2000*
42	Dog Spike	7800
43	Bond/ Weld Test/Rod lapping Test	5100
44	MS box Welding, Compressive Strength	7500+3000*
45	Butt welded joint	
46	Pre-stressing 12 Wire anchorage test	100000
47	Pre-stressing 19 Wire anchorage test	110000
48	HT Strand Relaxation Test	150000
49	Bolt wedge load test	7000
Timber Test		
1	Timber Compression Test, for 1 sample	7800+1000*
2	Timber Flexure Test, for 1 sample	18200+1000*
3	Moisture Content, for 1 sample	1500+1000*
4	Hardness, for 1 sample	7500+1000*
5	Density	1500+300*
Tiles		
1	Size & Shape (set of 5 nos)	2200
2	Absorption (with flexural needs additional 5 nos)	3100
3	Flexural / Modulus of Rupture (set of 5 nos)	2900

Sl. No.	Name of Test	Rate (BDT)
	Rubber/ Plastic/ PVC Materials	
1	Tension, for a set of 5 samples	3000
2	Hardness, for 1 sample	2000
3	Flexural, for a set of 5 samples	3500
4	Compression, for 1 sample	3500
5	Compression stiffness, for 1 sample	5000
6	Water Stopper - Tension, Dim., Elongation	5000+1000
7	Water Stopper – Sp. Gr. / Hardness	5000
	ELASTOMERIC BEARINGS / CFRP and GFRP Wraps / Epoxy Resin, Primers and Mortars	
1	CFRP Strip/ CFRP wraps – Tensile Strength, Modulus of elasticity, Elongation – ASTM D3039	14900+1200
2	Epoxy Resin, Primers and Epoxy based Mortars – Compressive Yield Strength and Modulus @ 14 days – ASTM D695:08	11800
3	Epoxy Resin, Primers and Epoxy based Mortars – Tensile Strength & Elongation at Break @ 14 days – ASTM D638:08	14900+1200
4	Epoxy Resin, Primers and Epoxy based Mortars – Absorption / Viscosity – ASTM D570:98 (05)	4700
5	Epoxy Resin, Primers and Epoxy based Mortars – Bond Strength @ 14 days ASTM C882/C882M:05e1	22000
6	Rubber Bearing Pad – Checking the dimensional variations – ASTM D4014; Clause 7	3700+2000
7	Rubber Bearing Pad – Bearing compression test for compression stiffness and video extensometer for checking laminate deformations – ASTM D4014; Clause 9	29700+700
8	Rubber Bearing Pad – Short-term Compression Proof Load Test to 150% of design load and visual inspection under load using video extensometer – AASHTO 2002 17th Edition Clause 18.7.2.5, 18.7.4.5.6	22000+600
9	Rubber Bearing Pad – Long- term Compression Proof Load Test to 150% of design load and visual inspection under load using video extensometer – AASHTO 2002 17th Edition Clause 18.7.2.6, 18.7.4.5.7	29500+700
10	Durometer hardness test (Shore A)- ASTM D2240 / Dimension	3700
11	Tensile strength and ultimate elongation – ASTM D412 { Peel strength test/ Determining Adhesion on rigid substrates}	7400+2000
12	Determination of shear modulus - ASTM D4014 / Test for compression set – ASTM D395	8000+800
13	Heat persistence test to change in tensile strength and ultimate elongation – ASTM D 573 & ASTM D2240 / Ash content	5800
14	Heat persistence test to change in tensile strength and ultimate elongation – ASTM D 573 & ASTM D412	9600+900
15	Strength of adhesive/bonded anchor in concrete (ASTM E1512, E488) per set of 3 anchors	22000
16	Surface Barcol's hardness (ASTM D2583)	12000
17	Chemical Resistance	35000
18	Bending strength	12000
19	Impact resistance	12000

Sl. No.	Name of Test	Rate (BDT)
	Soil Boring	
	Per Borehole	
1	Within Khulna City – depth up to 20 m (Manual/Automatic Hammer)	20000/70000
2	Within Khulna City – depth up to 30 m (Manual/Automatic Hammer)	30000/110000
3	Within Khulna City – depth up to 40 m (Manual/Automatic Hammer)	45000/130000
4	Within Khulna City – depth up to 50 m (Manual/Automatic Hammer)	60000/150000
5	Within Khulna City – depth>50 m (Manual/Automatic Hammer)	75000/160000
6	Outside Khulna City: Consult with Chairman	
Notes: Minimum 3 borings for a particular site; :Up to 3 katha – 3 nos.; 3 - 5 katha – 5 Nos.; 6 –10 katha – 8 Nos., Consult with Chairman; Mobilization, accommodation and VAT should be provided by the Client.		
	Soil Tests	
Physical & Index Properties		
1	Specific gravity (Sp. Gr.)	2100
2	Unit weight (wet & dry)	2000
3	Void ratio (Sp. Gr. & Unit weight)	3300
4	Moisture Content	1000
5	Linear Shrinkage	2000
6	Shrinkage limit	1700
7	Liquid limit and Plastic limit	4000
8	Grain size analysis by wash sieving / % finer than #200 sieve	3200
9	Hydrometer, Wash sieving & Specific gravity	6000
10	Organic matter content by loss on ignition	3000
11	Sand equivalent test	4500
Compaction & Density tests		
12	Max. and Min. density of cohesionless soil	8000
13	Standard Proctor Compaction test	12000
14	Modified Proctor Compaction test	15000
Permeability and Seepage Characteristics		
15	Permeability of cohesive soil by 1- dimensional consolidation	20000
16	Permeability of cohesionless soil (falling head)	8500
17	Permeability of cohesionless soil (constant head)	15000
Consolidation and swelling Characteristics		
18	One dimensional consolidation Cc, Cr, Cv (Only e – log p Tk. 15000)	20000
19	One dimensional consolidation (Cc, Cr, Cv) and Permeability (e – log k)	25000
20	Swelling Pressure	11000
21	Swelling Potential	9000
Strength and Deformation Characteristics		
22	Unconfined Compression Test (including Sp. Gr.)	8000
23	Laboratory California Bearing Ratio (CBR) of soils	22000+500*
24	Consolidated drained Direct Shear test for sand	13000
25	Consolidated drained Direct Shear test for clay	14000
26	Consolidated Drained Tri-axial compression Test	52000
27	Consolidated undrained Tri-axial compression test with pore pressure	52000

Sl. No.	Name of Test	Rate (BDT)
28	Consolidated undrained compression test without pore pressure	46000
29	Unconsolidated undrained compression test without pore pressure	22000
30	Consolidated undrained extension test without pore pressure	45000
Geotextiles / Geo Bags		
33	Apparent/ Effective Opening Size (AOS/ EOS)/Pore Size (3 specimens)	4000
34	Burst Strength	3000
35	Index Puncture Resistance or CBR Puncture (10 specimens)	3000
36	Cone Penetration	3000
37	Grab Tensile Strength & Elongation (5 specimens x 2-dir)	4000
38	Horizontal Permeability Under 2kPa Pressure	8500+500*
39	Seam Strength (6 specimens)	4000
40	Thickness (10 specimens)	1000
41	Trapezoidal Tear Strength	4000
42	Unit Weight / Mass per Unit Area (3 specimens)	2000
43	Vertical Permeability under 2kPa and 200 kPa Pressure	9000
44	Vertical Permeability under 2 kPa Pressure	5000
45	Water permeability by Permitivity/ Velocity Index	4000
46	Strip/ wide-Width Tensile strength & elong. (5 specimens x 2- dir)	5000
47	Grab Tensile Test (Long & X-dir. & Top & Bot. seam) of Geo Bag	12000
48	Vertical Permeability under head loss of 50 mm	4000
Geotechnical Field Tests		
49	Field CBR test. Min Fee=50000 (5 points)+SA	10000 add. per point+SA
50	Field compaction test. Min Fee=50000 (5 points)+SA	10000 add. per point+SA
51	Plate Load Test per Location *Note: Loading arrangement and VAT should be paid by client.*	45000+SA
52	Pile Load Test per pile *Note: Loading arrangement and VAT should be paid by client.*	65000+SA
53	Pile Integrity Test, Min fee: 50000+SA *Note: VAT should be paid by client.*	2000 per pile+SA
Tests on Water		
Routine Drinking Water Parameters (Package)		
1 2 3 4 5 6 7 8 9 10 11	pH Colour (True or Apparent) Turbididty Total Hardness Chloride (Cl) Total Dissolved Solids (TDS) Manganese (Mn) Arsenic (As) Total Iron (Fe) Total Coliform (TC) / Thermotolerent Coliform (TTC) Fecal Coliform (FC)	9000+1000*
Environmental Quality of Soil, Sludge and Solids		
1	pH	500
2	Electrical Conductivity	1000

Sl. No.	Name of Test	Rate (BDT)
3	Organic Matter Content by Loss on Ignition	3000
4	Water Soluble Cl / Salinity/ PO_4/ SO_4 (each)	2800+200*
Metal Analysis of Soil, Sludge and Solids following Total Extraction and/ or TCLP		
5	Total Extraction Charges (each sample)	1500+500
Extractant Analysis Charge		
6	Ca/Cd/Co/Cr/Cu/Fe/Mg/Mn/Ni/Pb/Zn – using FLAAS (each)	1600+600
7	Arsenic (As) - using GFAAS	1600+600
8	Mercury (Hg) – Cold Vapor Method	4000+1200
9	Selenium (Se) – using GFAAS / Ba	3200+800
10	Na / K – using FLAAS (each)	2000+500
11	Toxic Characteristics Leaching Procedure (TCLP) Charge	3500+2500
Ambient Air Quality Monitoring		
1	SPM PM 10	12000+1500
2	PM 2.5	12500+2500
Noise Monitoring		
1	Minimum Fee (per 5 locations in one entity)	15000+SA
2	Calibration of Noise Meter (per equipment)	5000
Sample Collection Charges		
1	Sampling for Bacteriological Analysis	6500+SA
2	Sampling for Physical and Chemical Analysis	6500+SA
Tube well Design		
1	Tubewell Design, incl. 10 Nos. sand test	17000+15000
Miscellaneous Water Quality Parameters		
1	pH	400
2	Colour (True or Apparent)	500
3	Colour Scanning at Specific Wavelength/UV – VISRange	1200
4	Turbidity	400
5	Carbon-di-Oxide (CO_2) / Acidity	250+50*
6	P-Alkalinity/ M- Alkalinity/ T- Alkalinity	450+50*
7	Carbonate (CO_3) or Bi-carbonate (HCO_3)	600+100*
8	Total Hardness (EDTA)	900+100*
9	Ca- Hardness	2500+200*
10	Mg - Hardness	2500+200*
11	Chloride (Cl)	700+100*
12	Fluoride (F)	500+100*
13	Ammonia- Nitrogen (NH_3 - N)	900+200*
14	Nitrate – Nitrogen (NO_3 - N)	600+100*
15	Nitrite - Nitrogen (NO_2 – N)	600+100*
16	Total Nitrogen (TN)	5000+1000*
17	Total Kjeldahl Nitrogen (TKN) / Organic Nitrogen	12000+3000*
18	Chlorine Content – Total Cl_2	600+100*
19	Chlorine Content – Free Cl_2	600+100*
20	Iodine Content	600+100*
21	Bromine Content	500+200*
22	Break Point Chlorination	7300+1200*
23	Total Solids (TS)	1000
24	Total Suspended Solids (TSS)/ Insoluble Solids / (TSS+TDS=TS)	1900+100*
25	Total Dissolved Solids (TDS)	900+100*

Sl. No.	Name of Test	Rate (BDT)
26	Silica Content (SiO_2)	700+400*
27	Electrical Conductivity (EC)	600
28	Total Phosphous (TP)	3000+500*
29	Orthophosphate (PO_4)	800+100*
30	Hydrogen Sulphide (H_2S) / Odour	600+200*
31	Sulphate (SO_4)	600+100*
32	Biochemical Oxygen Demand (BOD)- 5 day	2000
33	Chemical Oxygen Demand (COD)	1800+200*
34	KMnO4 Value	1800+200*
35	Dissolved Oxygen (DO)	600
36	Boron (B)	1600+1200*
37	Manganese (Mn) : UV - VIS	1000+200*
38	Aluminum (Al)	3500+500*
39	Silver (Ag)	4000+500*
40	Arsenic (As) - using GFAAS	1100+600*
41	Selenium (Se) - using GFAAS / Ba (each)	2400+900*
42	Ca/Cd/Cr/Cu/Fe/Mg/Mn/Ni/Pb/Zn – using FLAAS (each)	1200+500*
43	Na / K – using FLAAS (each)	1600+400*
44	Nickel (Ni) / Cobalt (each)	1700+1000*
45	Mercury(Hg)- Cold Vapour Method (Mini. 30 days required)	3500+1200*
46	Cyanide (Cn)	3000+1000*
47	Ferrous Iron/ Ferric Iron	2000+500*
48	Total Organic Carbon (TOC)	7000+1000*
49	Dissolved Organic Carbon (DOC)	7500+1500*
50	Silt Density Index (SDI) with Plugging	8000+500*
51	Sodium Absorption Ratio (SAR)	3500+1000*
52	Langlier Saturation Index	4000+1000*
53	Ryznar Index	4000+1000*
54	Aggressiveness / Corrosivity Index	4000+1000*
55	Puckorius Scaling Index	4000+1000*
56	Larson – Skold Index	5000+1200*
Bacteriological Analysis		
1	Fecal Coliform (FC) / Total Coliform (TC) (each)	1300+200*
2	E. Coli	1300+700*
3	Algae / Chlorophyll_a	9500+1500*
Miscellaneous Wastewater/ Effluent Quality Parameters		
1	pH	400
2	Color (True or Apparent)	500+200*
3	Color Scanning at specific Wavelength/UV-VIS Range	1500+200*
4	Turbidity	400+200*

Sl. No.	Name of Test	Rate (BDT)
5	P-Alkalinity/ M- Alkalinity/ T- Alkalinity	500+200*
6	Carbonate (CO_3) or Bi-carbonate (HCO_3)	700+200*
7	Total Hardness (EDTA)	900+300*
8	Ca - Hardness	2500+300*
9	Mg - Hardness	2500+300*
10	Chloride (Cl)	750+250*
11	Fluoride (F)	700+100*
12	Ammonia-Nitrogen (NH_3-N)	900+200*
13	Nitrate-Nitrogen(NO_3-N)	600+100*
14	Nitrite-Nitrogen (NO_2-N)	600+100*
15	Total Nitrogen (TN)	5500+1500*
16	Total Kjeldahl Nitrogen (TKN) / Organic Nitrogen	12000+3000
17	Chlorine content, Total Cl_2	600+100*
18	Chlorine content, Free Cl_2	600+100*
19	Iodine content (I)	500+100*
20	Bromine content (Br)	500+200*
21	Total Solids (TS)	1000
22	Total Suspended Solids (TSS)/Insoluble solids/ (TSS+TDS+TS)	1800+100*
23	Total Dissolved Solids(TDS)	900+100*
24	Silica-content (SiO_2)	800+400*
25	Electrical conductivity(EC)	700
26	Total Phosphorous (TP)	3000+700*
27	Orthophosphate (PO_4)	800+200*
28	Hydrogen Sulphide (H_2S)	700+200*
29	Sulphate (SO_4)	600+200*
30	Organic Matter	1800+300*
31	Biochemical Oxygen Demand (BOD) – 5 day	2100+100*
32	Chemical Oxygen Demand(COD)	1700+200*
33	$KMnO_4$ Value	1500+400*
34	Dissolved Oxygen(DO)	700
35	Boron (B)	1800+1200*
36	Aluminium (Al)	4000+500*
37	Silver (Ag)	4000+500*
38	Arsenic (As) - using GFAAS	1300+600*
39	Selenium (Se) - using GFAAS/ Ba (each)	2500+900*
40	Ca/Cd/Cr/Cu/Fe/Mg/Mn/Ni/Pb/Zn - using FLAAS (each)	1300+500*
41	Na / K using FLAAS (each)	1800+400*
42	Total Organic Carbon (TOC)	8000+1000*
43	Dissolved Organic Carbon (DOC)	8500+1500*
Bacteriological Analysis		
44	Faecal Coliform (FC) / Total Coliform (TC) (each)	1300+200*
45	Algae/ Chlorophyll_a	10000+1500*

Notes: SA= Site Allowance for the field visit: 12500 Tk. within Khulna city. For outside the city or remote locations, it will be decided by the Chairman, CRTS (Civil). The transportation, local hospitalities and accommodation (in case of overnight stay) should be paid by the Client. * Indicates charges for chemical/labor/others.

Consultancy Services: The department also offers various consultancy services like surveying, design, supervision, evaluation, assessments, feasibility studies, etc in the wide range of fields: Transportation Engineering, Port Engineering, Airport Engineering, Water Resources Engineering, Geotechnical Engineering, Environmental Engineering and Structural Engineering. For more details, please contact with the Chairman, CRTS (Civil), KUET.

14.2.19
পরিচালক (সি আর টি এস)
খুলনা প্রকৌশল ও প্রযুক্তি বিশ্ববিদ্যালয়

14.2.19
CHAIRMAN
CENTRAL CRTS