

# BANGLADESH UNIVERSITY OF ENGINEERING AND TECHNOLOGY, DHAKA -1000

## DEPARTMENT OF CIVIL ENGINEERING

Committed to Quality Assurance for Better Bangladesh

### APPROVED RATES FOR TESTING OF MATERIALS AND SERVICES

Rates include VAT (15%), University Overhead (30%) & Laboratory Development and Maintenance Effective from December, 2024

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

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BRTC Office Time : Sat to Wed => 9:00 am - 5:00 pm & Thu => 9:00 am - 2:00 pm

### Transportation Engineering Laboratory

Sl. No.	Name of Tests	Test Rate (Tk.)	Sl. No.	Name of Tests	Test Rate (Tk.)
<b>Aggregates (Sample Preparation Charge Tk. 2000 per Sample)</b>			<b>Bitumen (Sample Preparation Charge Tk. 3000 per Sample)</b>		
1	Sieve analysis (CA) / Gradation /FM (CA) Upto No.4	7,500	1	Specific gravity (Sp.Gr.)/ Density	5,800
2	Sieve analysis (CA) / Gradation (Base/subbase)	12,000	2	Penetration	5,800
3	Sieve analysis / Gradation / FM (CA) (Ballast)	9,600	3	Naphta Xylene Equivalent (500 for chem)	24,500
4	Sieve analysis / Gradation / FM (CA) (Ballast)/Specified Sieve size	12,700	4	Flash & Fire Points	5,800
5	Sieve analysis (FA) / FM	4,200	5	Solubility (500/- for Chem.)	5,500
6	% finer than # 200 sieve by washing / Fine content/Silt content	4,200	6	Ductility (300/- for Chem.)	5,500
7	Aggregate Crushing Value(ACV)	8,500	7	Softening Point (R&B) (300/- for Chem.)	5,500
8	Aggregate Impact Value (AIV)	7,400	8	Thin Film Oven (TFO) / Loss-on-Heating (LOH)	7,100
9	Ten Percent Fine Value (TFV)	12,700	9	Float Test	5,800
10	Angularity number including specific gravity (Sp.Gr.)	10,600	10	Foaming Test	5,800
11	Elongation Index (EI)	9,600	11	Spot Test (200/- for chem)	5,800
12	Flakiness Index (FI)	8,800	12	Viscosity (Dynamic) (200/- for chem)	21,200
13	L.A. Abrasion of CA (ASTM C131)	8,500	13	Ash Content / Inorganic Matter	10,500
14	L.A. Abrasion of Ballast (ASTM C535)	8,800	14	Any test on residue from LOH/TFOT (if TFOT/LOH included separately)	10,600
15	Unit weight of aggregate (CA)	5,500	15	Any test on residue from LOH/TFOT (if TFOT/LOH not included separately)	17,800
16	Unit weight of aggregate (FA)	5,000	16	Coating & Stripping test with/without Anti-Stripping Agent/Dose	8,100
17	Soundness with Na <sub>2</sub> SO <sub>4</sub> (4400/- for chemical)	21,200	17	Asphalt Concrete Mix Design (Marshall)*	89,700
18	Soundness with Mg <sub>2</sub> SO <sub>4</sub> (6600/- for chemical)	23,400	18	Particle Charge Test of Bitumen Emulsion	6,100
19	Absorption and Specific Gravity / Density	7,500	<b>Asphalt or Bituminous Material / Pavement Core</b>		
20	Clay lumps & friable particles	6,300	<b>(Sample Preparation Charge Tk.3000 per Sample)</b>		
21	Moisture Content	3,200	19	Bitumen content	18,000
22	Percentage of Uncrushed Particle (Fractured face)	9,600	20	Extracted Aggregate Gradation (If Bitumen Content is included)	11,700
23	Mica Content of Coarse Sand / CA by visual observation	16,600	21	Extracted Aggregate Gradation ONLY	28,600
24	Effect of organic impurities (1300/- for chem)	19,200	22	Water Content	11,500
25	Organic impurities/Salt content / Sulphate content / Salinity (Chemical 500) (300/- for chem)	5,000	23	Theoretical Maximum Specific Gravity	8,500
26	Bulking of sand (Multi Point)	16,500	24	Density	4,200
27	Void Ratio / Porosity / Moh. Hardness	8,500	25	Marshall Stability and Flow Test	7,500
28	CBR of Base or Sub-base material	65,800	26	In-situ core cutting (per sample)	11500+Field Visit
29	Standard Proctor test of aggregate (MDD)	26,500	27	Job Mix Formula & Marshall Test	144,000
30	Modified Proctor or Vibrating Hammer	43,500	28	TSR (Tensile Strength Ratio) Test	90,000
31	Potential Alkali-Silica Reactivity of Aggregates (Chemical Method) C289	30,000	29	RTFO	20,000
32	Potential Alkali Reactivity of Aggregates (Mortar-Bar Method) C1260	36,000	30	Binder CS (DSR)	20,000
33	Coal & Lignite (CA)	30,000	31	RTFO CS (RTFO + DSR)	40,000
	Coal & Lignite (FA)	20,000	32	MSCR	50,000

Notes: [\* Field visit fee; Inside Dhaka City = Tk. 20,000; Near Districts = Tk. 40,000 ; Farthest Districts = Tk. 60,000 without overnight stay and Tk. 50,000 per day for overnight stay, ] [\* & Transport, local hospitalities, accommodation (in case of overnight stay) etc. are to be provided by the Client]

S.P.C. = Sample Preparation Charge. For one trial only using client's supplied sample. However, if design is to be performed by BRTC, BUET item at least 3 trial cost should be borne by the client.

## Concrete Laboratory

Bricks/Concrete Blocks (Bricks needed for ASTM = 5 Nos., BS = 10 Nos.)		
1	Absorption (ASTM / BS Standard)	2,500 / 4800
2	Crushing strength(ASTM / BS Stand; 300/400/- capping mat.)	5500 / 8600
3	Size & shape (ASTM / BS Standard)	5,000 / 5,000
4	Unit Weight (ASTM / BS Standard); 200/300 for S.P.C.	4,300 /5,700
5	Efflorescence (needed 10 additional bricks)	5,500
Hollow / Special Brick Block / Kerb (Set of 3 Nos.)		
1	Comp. strength of Hollow bricks / Paving Block	4,000
2	Compressive strength of Road Kerb Stone (with core cutting)	7,200
3	Absorption	2,800
4	Unit weight	4,800
5	Autoclaved Concrete Block	6,000

R.C.C Pipes		
1	Pipes (dia up to 600mm)	7,500
2	Pipes (dia above 600mm and up to 900mm)	8,500
3	Pipes (dia above 900mm and up to 1200mm)	11,000
4	Pipes (dia above 1200mm and up to 1524mm)	14,000
5	In-situ pipe testing (Per Nos)	12,000
Manhole Covers +		
1	Load & wt. test on manhole covers (<18 inch or 450 mm Dia)	8,500
2	Load & wt. test on manhole covers (>18 inch or 450 mm Dia)	9,500
Miscellaneous		
1	Initial Rate of Absorption/Suction for Brick	3,600

**Note: + Pipe specimens & manhole covers have to be taken away by the Client, immediately after the test is performed.**

Cement Concrete		
1	Concrete cylinders (100x200mm), for a set of 3 Nos.(Density Test 10000/=)	2,500
2	Concrete cylinders (150x300mm), for a set of 3 Nos.	4,500
3	Cubes (< 200mm) , for a set of 3 Nos.(Density Test 15000/=)	3,800
4	Cubes (200mm - 300mm), for a set of 3 Nos.	4,500
5	Cubes (>300mm), each core cutting & testing (300/- for fuel)	7,200
6	Concrete Spun, for a set of 3 Nos.	4,000
7	Concrete beam in flexure, for a set of 3 Nos.	10,000
8	Concrete slab in flexure, for a set of 3 Nos.	14,000
Concrete Mix Designs		
9	Concrete mix design without admixture(Cylinder) (22,000+52,000)	74,000
10	Concrete mix design with admixture (Cylinder) (25,000+57,000)	82,000
11	Concrete mix design without admixture (Cube) (25,000+57,000)	82,000
12	Concrete mix design with admixture (Cube) (28,000+62,000)	90,000
Destructive and NDT Tests		
13	In-Situ core cutting & testing per sample (without scanning) (S.P.C. 200/-)	6,800 +*
14	In-Situ core cutting & testing per sample (with quick scanning) (S.P.C. 400/-)	14,000 +*
15	In-Situ Hammer Test - per spot / location (min. 3 tests)	7,000 +*
16	In-Situ Winsor Pin Test - per spot / location (min. for 3 tests)	6,500 +*
17	In-Situ Scanning (quick & Image) per spot / location (for 2 scans)	14,000 +*
18	In-Lab Block/Kerb core cutting & testing per sample (S.P.C. 300/-)	7,200+
19	In-Lab Supplied Core Testing (per core) (SPC 300/-)	3,000+

Cement (ASTM / AASHTO Standard)		
1	Compressive strength, 3, 7 & 28 days (1000/- Ottawa Sand) (S.P.C. 1,000/-)	11,400
2	Setting time	4,800
3	Fineness with Density	8,000
4	Setting time (only)	5,200
5	Normal Consistency (only)	3,200
6	Density / Sp.Gr.	4,500
7	Weight of cement bag	800
Cement (EN Standard)		
1	Compressive Strength, 2 & 28 days (Ottawa Sand: 600/-)	30,000
2	Compressive Strength 2, 7 & 28 days (Ottawa Sand: 800/-)	38,000
1	Cement - Soundness	12,000
2	Mix Design - Rapid Chlorde Premeability	75,000
3	Slum Retention	200,000
4	R.C.P.T	50,000
5	Aggregate Drying Shrinkage	50,000

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## S. M. Laboratory

Calibration			A. Rod (Set of 3 Nos.)		
1	Pressure gauge / Dial Gauge	6,000	1	Tension test including wt. & elongation (up to 25mm)	2,500
2	Calibration of Hydraulic Jack (up to 300 ton) with Pressure Gauge Calibration	44,000	2	Tension test incl. wt. & elongation (above 25mm & up to 32mm)	3,700
3	Calibration of Hydraulic Jack (up to 1000 ton) with Pressure Gauge Calibration	74,000	3	Tension test inc. wt. & elongation (above 32 mm & up to 50 mm)	4,500
4	Proving ring (< 100 kN )	7,000	4	Tension test inc. wt. & elongation (above 50 mm) (S.P.C. 6,000/-)	10,800
5	Proving ring (100 kN to 500 kN )	8,000	5	Bend test (up to 25mm)	1,200
6	Proving ring (> 500 kN )	9,500	6	Bend test (above 25mm)	1,300
7	Dynamometer	11,500	7	Re-bend test (up to 25mm)	1,700
8	Compression / Tension Testing Machine (with Verification tk 30000)	20,000	8	Re-bend test (above 25mm)	1,900
9	Calibration of Concrete Mix Batching Plant	350,000	9	Deformation Measurement	3,000
Balance and Weight			10	Elongation at 5D as per ISO 6935-2 per Set	2,000
10	Electronic Balance up to 20kg / Platform Scale / Balance	11,000	11	Stress-strain Curves (mod.of elasticity)( for Strand : 12,800/-)	13,000
11	CA measuring potable fara / Measuring cub	5,700	12	Shear Test for Rod (S.P.C. as per rod dia 1200/- -- 2,000/-)	2,500
12	Schmidt Hammer (Rebound)	14,500	13	Shaft Rod < 30 mm	4,000
13	Weight < 2kg / Load Cell (Weight Box 17800)	11,000	14	Shaft Rod > 30 mm <50 mm (S.P.C. 4000/-)	10,500
14	Balance up to 300kg	16,000	15	Shaft Rod > 50 mm <60 mm (S.P.C. 5000/-)	11,500
15	Balance above 300kg to 1000kg	21,000	16	Shaft Rod > 60 mm <80 mm (S.P.C. 5000/-)	12,500
16	Balance above 1000kg	32,500	17	H.T. Wire, Tension test	10,000
Cement Testing Apparatus			18	Strand / Cable Tension test	16,200
17	Mixture Machine (Mortar cube & setting)	9,700	19	Welded MS Bar Tension Test (as per MS Bar Rate x 2 times)	
18	Blaine Apparatus /Jolting table / Vibrating Machine	15,000	20	Coupler Tension test without EMF 3 Nos / 5 Nos Per set	7500 / 10000
19	Vicat Apparatus	7,600	21	Coupler Tension test with EMF 3 Nos / 5 Nos Per set	17500 / 200000
20	Cement Autoclave Machine	9,700	B. Bolt, Angle and Plate (Set of 3 Nos.)		
21	Cylinder/Cube Mould Calibration	2,900	22	Anchor Bolt/ Hooks Tension test (up to 25 mm) (S.P.C. 1000/-) (if required)	5,800
22	Curing Tank	6,100	23	Anchor Bolt/ Hooks Tension test (above 25 mm) (S.P.C. 1000/-) (if required)	7,000
23	PH Meter / Stop watch	2,400	24	Bolt Tension Test (up to 25mm)	4,000
Survey Equipment			25	Bolt Tension Test (above 25mm) (S.P.C. 1000/-)	6,800
14	Theodolite	15,700	26	Anchor Bolt/Bolt/Hooks Shear Test (up to 25mm) (S.P.C. 1000/-)	4,100
25	Level	12,100	27	Anchor Bolt/Bolt/Hooks Shear Test (above 25mm) (S.P.C. 2,000/-)	6,200
26	Total Station	43,100	28	Angle/Plate/Sheet Pile/Joist Tension test (up to 16mm) (S.P.C. 1,500/-)	5,200
Miscellaneous Equipment / Devices			29	Angle/Plate/Sheet Pile/Joist Tension test (above 16mm up to 30mm) (S.P.C. 2,000/-)	6,300
27	Verneer Scale/ Micro meter	2,500	30	Angle/Plate/Sheet Pile/Joist Tension test (above 30mm) (S.P.C. 2,500/-)	6,900
28	Steel Scale	2,500	31	Sheet Pile/Joist wt. per meter & Thickness (S.P.C. 1,000/-)	3,400
29	Thermometer	4,000	32	Sheet Pile/Joist Section Modulus/Moment of Inertia (S.P.C. 2,000/-)	20,000
30	Sieve	4,000	33	Hardness test (Rockwell) (S.P.C. 1,000/-)	4,500
31	Tacheometer	18,000	34	Impact test, for a set of 3 Nos. (S.P.C. 1,000/-)	4,500
Outside Laboratory / In-situ Calibration			C. Rod (Miscellaneous)		
32	Compression / Tension Testing Machine (with one dial)	20,000 +*	35	Scaffolding / Steel Props / Jog (for a set of 1 No.)	14,700
33	Portable Weighing Bridge	18,500	36	Steel Sleeper (for a set of 1 No.) (S.P.C. 800/-)	7,400
Tiles (Set of 5 Nos.)			37	Transverse Breaking Load of Rail (for a set of 1 No.)	27,200
1	Size & shape	2,500	38	Fibre Glass Stainers / Pipes Tension test (for a set of 3 Nos.)	5,400
2	Absorption (with flexural needs additional 5 Nos.)	3,500	39	Fibre Glass Compression test (for a set of 1 No.)	2,500
3	Flexural / Modulus of Rupture	3,500	40	Spring test (for a set of 1 No.)	3,700
Rubber / Plastic / PVC Materials			41	Aluminium Column Compression test (S.P.C. 2,000/-)	11,900
1	Tension, for a set of 5 samples	3,500	42	Dog Spike	8,800
2	Hardness, for 1 sample	2,500	43	Bond/Weld Test or Rod Lapping Test	6,200
3	Flexural, for a set of 5 samples	4,600	44	MS Box Welding Compressive Strength (S.P.C. 3,000/-)	11,900
4	Compression, for 1 sample	4,600	45	Butt Welded Joint	8,100
5	Compression stiffness, for 1 sample	6,500	46	Prestressing 12 Wire Anchorage Test (50,000+80,000)	130,000
6	Water Stopper - Tension, Dim., Elongation (S.P.C. 1000/-)	7,500	47	Prestressing 19 Wire Anchorage Test (55,000+88,500)	143,500
7	Water Stopper - Sp. Gr. / Hardness	6,000	48	(for Retest of Prestressing Wire Anchorage, test fee will be one third)	
Truck Scale Calibration			49	Test on Admixture (Mineral) for Cement/Concrete	Consult with teacher
1	Capacity: 0-20 ton	175,000	50	Plate Bend (T-1200 & LC -1500)	2,700
2	Capacity: 0-40 ton	215,000	51	Sleeper Test (D.G)	135,000
3	Capacity: 0-60 ton	260,000	52	Sleeper Test (B.G)	115,000
4	Capacity: 0-80 ton	315,000	53	Sleeper Test (M.G)	90,000
5	Capacity: 0-100 ton	375,000	54	Stress Relaxation Test For 1000 Hours	287,500
6	Wire Rope 1 Nos.	5000	55	Stress Relaxation Test For 100 Hours	115,000
			56	Coupler Slip test ( 5 Nos. Per set)	12,000

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Sl. No.	Name of Tests	Test Rate (Tk.)	Sl. No.	Name of Tests	Test Rate (Tk.)
<b>Environmental Engineering Laboratory</b>					
<b>Tests on Water</b>			<b>Miscellaneous Water Quality Parameters</b>		
<b>Routine Drinking Water Parameters (Package)</b>			1	pH (Chemical 200/-)	700
1	pH	12,000 +3,000 = 15,000 (Drinking+As+TC/FC) 9,800 + 2,200 = 12,000 (Drinking+As)	2	Colour (True or Apparent) (Chemical 200/-)	700
2	Colour (True or Apparent)		3	Colour Scanning at Specific Wavelength/UV-VISRange (Chemical 200/-)	2,000
3	Turbidity		4	Turbidity (Chemical 200/-)	700
4	Total Hardness		5	Carbon-di-Oxide (CO <sub>2</sub> ) / Acidity (Chemical 150/-)	600
5	Chloride (Cl)		6	P-Alkalinity/ M-Alkalinity/T-Alkalinity (Chemical 200/-)	700
6	Total Dissolved Solids (TDS)		7	Carbonate (CO <sub>3</sub> ) or Bi-carbonate (HCO <sub>3</sub> ) + pH (Chemical 200/-)	900
7	Manganese (Mn)		8	Total Hardness (Chemical 300/-)	1,400
8	Arsenic (As)		9	Ca - Hardness (Chemical 800/-)	3,200
9	Total Iron (Fe)		10	Mg - Hardness (Chemical 800/-)	3,200
10	Total Coliform(TC)/Thermotolerent Coliform (TTC)		11	Chloride (Cl) (Chemical 250/-)	1,000
11	Fecal Coliform (FC)		12	Fluoride (F) (Chemical 100/-)	800
<b>Environmental Quality of Soil, Sludge and Solids</b>			13	Ammonia-Nitrogen (NH <sub>3</sub> - N) (Chemical 400/-)	1,500
1	pH (Chemical 200/-)	1,500	14	Nitrate - Nitrogen (NO <sub>3</sub> - N) (Chemical 250/-)	1,100
2	Electrical Conductivity (Chemical 300/-)	1,500	15	Nitrite - Nitrogen (NO <sub>2</sub> - N) (Chemical 250/-)	1,100
3	Organic Matter Content by Loss on Ignition Test	5,000	16	Total Nitrogen (TN) (Chemical 1500/-)	12,000
4	Water Soluble Cl / Salinity/ PO <sub>4</sub> / SO <sub>4</sub> (each) (Chemical 400/-)	5,500	17	Total Kjeldahl Nitrogen (TKN) / Organic Nitrogen (Chemical 3,000/-)	16,000
5	Sodium Oxide / Silica (CA)	12,000	18	Chlorine Content - Total Cl <sub>2</sub> (Chemical 250/-)	1,000
<b>Metal Analysis of Soil, Sludge and Solids following Total Extraction and / or TCLP</b>			19	Chlorine Content - Free Cl <sub>2</sub> (Chemical 250/-)	1,000
5	Total Extraction Charges (each sample) (Chemical 500/-)	3,000	20	Iodine Content (Chemical 200/-)	1,000
<b>TCLP Extractant Analysis</b>			21	Bromine Content (Chemical 200/-)	1,000
	Ca/Cd/Co/Cr/Cu/Fe/Mg/Mn/Ni/Pb/Zn - using FLAAS (each) (Chemical 600/-)	3,000	22	Break Point Chlorination (Chemical 1200/-)	15,000
6	Arsenic (As) - using GFAAS (Chemical 600/-)	3,000	23	Total Solids (TS) (Chemical 100/-)	1,200
	Mercury (Hg) - Cold Vapor Method (Chemical 1200/-)	6,000	24	Total Suspended Solids (TSS)/Insoluble Solids/(TSS+TDS+TS) (Chemical 500/-)	2,400
	Selenium (Se) - using GFAAS / Ba (Chemical 800/-)	5,000	25	Total Dissolved Solids (TDS) (Chemical 150/-)	1,200
	Na / K - using FLAAS (each) (Chemical 500/-)	4,000	26	Silica Content (SiO <sub>2</sub> ) (Chemical 400/-)	1,800
7	Toxic Characteristics Leaching Procedure (TCLP) Charge (Chemical 1500/-)	7,000	27	Electrical Conductivity (EC) (Chemical 350/-)	700
<b>Extractant Analysis</b>			28	Total Phosphorous (TP) (Chemical 700/-)	4,500
	Ca/Cd/Co/Cr/Cu/Fe/Mg/Mn/Ni/Pb/Zn - using FLAAS (each) (Chemical 600/-)	3,000	29	Orthophosphate (PO <sub>4</sub> ) (Chemical 200/-)	1,200
8	Arsenic (As) - using GFAAS (Chemical 600/-)	3,000	30	Hydrogen Sulphide (H <sub>2</sub> S) / Odour (Chemical 200/-)	1,100
	Mercury (Hg) - Cold Vapor Method (Chemical 1200/-)	6,000	31	Sulphate (SO <sub>4</sub> ) (Chemical 200/-)	1,200
	Selenium (Se) - using GFAAS / Ba (Chemical 800/-)	5,000	32	Biochemical Oxygen Demand (BOD)-5 day (Chemical 400/-)	2,500
	Na / K - using FLAAS (each) (Chemical 500/-)	4,000	33	Chemical Oxygen Demand (COD) (Chemical 600/-)	2,500
<b>Calorific Values of Sludge, Solids and Semi-Solids</b>			34	Dissolved Oxygen (DO) (Chemical 400/-)	700
1	Calorific Values of Sludge/Solids/Semi-Solids	12,000	35	Boron (B) (Chemical 1,200/-)	3,500
<b>Ambient Air Quality &amp; Exhaust Emission Monitoring *</b>			36	Manganese (Mn): UV - VIS (Chemical 500/-)	2,200
<b>Parameters</b>			37	Aluminum (Al) (Chemical 500/-)	5,000
<b>Ambient Air Quality Parameters</b>			38	Silver (Ag) (Chemical 500/-)	5,000
1	SPM (Chemical 1500/-), PM10, PM2.5 (Chemical 2500/-), CO, NO <sub>2</sub> , SO <sub>2</sub> , VOCs	Please contact us	39	Arsenic (As) - using GFAAS (Chemical 600/-)	2,200
<b>Exhaust Emission Parameters</b>			40	Selenium (Se)/Barium (Ba) - using GFAAS (Chemical 900/-)	4,500
2	CO <sub>2</sub> , CO, O <sub>2</sub> , NO, NO <sub>2</sub> , SO <sub>2</sub> , CH <sub>4</sub> , NH <sub>3</sub>		41	Ca/Cd/Co/Cr/Cu/Fe/Mg/Mn/Ni/Pb/Zn - using FLAAS (each) (Chemical 500/-)	2,200
<b>Noise Level Monitoring *</b>			42	Na / K - using FLAAS (each) (Chemical 400/-)	2,700
1	Minimum Fee (per 5 locations in one entity)	25,000	43	Nickel (Ni) / Cobalt (each) (Chemical 1,000/-)	3,500
2	Calibration of Noise Meter (per equipment)	6,000	44	Mercury(Hg)-Cold Vapour Method (Mini. 30 days required) (Chemical 1200/-)	5,000
<b>Field Sampling *</b>			45	Cyanide (Cn) (Chemical 1000/-)	5,000
1	Sampling for Bacteriological Analysis	10,000 + *	46	Ferrous Iron/ Ferric Iron (Chemical 500/-)	3,000
2	Sampling for Physical and Chemical Analysis	10,000 + *	47	Total Organic Carbon (TOC) (Chemical 1000/-)	10,000
<b>TUBEWELL DESIGN</b>			48	Dissolved Organic Carbon (DOC) (Chemical 1500/-)	11,000
1	Tubewell Design (depth up to 600'), incl. 8 Nos. sand test ^	20,000+18,000	49	Silt Density Index (SDI) with Plugging (Chemical 500/-)	15,000
2	Tubewell Design (depth above 600'), Incl. 11 Nos. sand test ^	21,000+25,000	50	Sodium Absorption Ratio (SAR) (Chemical 1000/-)	6,500
3	Tubewell Design (depth above 1000'), Incl. 13 Nos. sand test ^	22,000+33,000	51	Langlier Saturation Index (Chemical 1000/-)	7,500
<b>BACTERIOLOGICAL ANALYSIS</b>			52	Ryznar Index (Chemical 1000/-)	7,500
1	Fecal Coliform (FC) / Total Coliform (TC) (each) (Chemical 500/-)	1,600	53	Aggressiveness / Corrosivity Index (Chemical 1000/-)	7,500
2	E. Coli (Chemical 1500/-)	4,000	54	Puckorius Scaling index (Chemical 1000/-)	7,500
3	Algae / Chlorophyll_a (Chemical 1500/-)	11,000	55	Larson-Skold Index (Chemical 1200/-)	9,000
<b>Notes :</b>			56	Oil & Grease (Chemical 3000/-)	15,000
+++ Sampling charge may vary depending on the area to be sampled			57	Total Silicon/Total Silica (SiO <sub>2</sub> ) (Chemical 1000/-)	7,000
^ Cost depends on the client's requirements			58	Specific Gravity (Chemical 500/-)	4,000
* Usual field visit fees apply in addition to above					

Notes: [\* Field visit fee; Inside Dhaka City = Tk. 20,000; Near Districts = Tk. 40,000 ; Farthest Districts = Tk. 60,000 without overnight stay and Tk. 50,000 per day for overnight stay, ] [\* & Transport, local hospitalities, accommodation (in case of overnight stay) etc. are to be provided by the Client]  
S.P.C. = Sample Preparation Charge. For one trial only using client's supplied sample. However, if design is to be performed by BRTC, BUET item at least 3 trial cost should be borne by the client.

Sl. No.	Name of Tests	Test Rate (Tk.)
<b>Miscellaneous Wastewater/Effluent Quality Parameters</b>		
1	pH (Chemical 200/-)	800
2	Colour (True or Apparent) (Chemical 200/-)	1,000
3	Colour Scanning at Specific Wavelength/UV-VIS Range (Chemical 200/-)	2,500
4	Turbidity (Chemical 200/-)	800
5	P-Alkalinity/ M-Alkalinity/T-Alkalinity (Chemical 200/-)	1,000
6	Carbonate (CO <sub>3</sub> ) or Bi-carbonate (HCO <sub>3</sub> ) + pH (Chemical 200/-)	1,300
7	Total Hardness (Chemical 300/-)	1,500
8	Ca - Hardness (Chemical 800/-)	3,800
9	Mg - Hardness (Chemical 800/-)	3,800
10	Chloride (Cl) (Chemical 250/-)	1,400
11	Fluoride (F) (Chemical 100/-)	1,000
12	Ammonia-Nitrogen (NH <sub>3</sub> - N) (Chemical 400/-)	2,000
13	Nitrate - Nitrogen (NO <sub>3</sub> - N) (Chemical 250/-)	1,200
14	Nitrite - Nitrogen (NO <sub>2</sub> - N) (Chemical 250/-)	1,200
15	Total Nitrogen (TN) (Chemical 1500/-)	12,000
16	Total Kjeldahl Nitrogen (TKN) / Organic Nitrogen (Chemical 3000/-)	16,000
17	Chlorine Content - Total Cl <sub>2</sub> (Chemical 250/-)	1,100
18	Chlorine Content - Free Cl <sub>2</sub> (Chemical 250/-)	1,100
19	Iodine Content (Chemical 200/-)	1,100
20	Bromine Content (Chemical 200/-)	1,100
21	Total Solids (TS) (Chemical 100/-)	1,400
22	Total Suspended Solids (TSS)/Insoluble Solids/(TSS+TDS+TS) (Chemical 500/-)	2,800
23	Total Dissolved Solids (TDS) (Chemical 500/-)	1,400
24	Silica Content (SiO <sub>2</sub> ) (Chemical 400/-)	2,000
25	Electrical Conductivity (EC) (Chemical 350/-)	1,000
26	Total Phosphorous (TP) (Chemical 700/-)	5,000
27	Orthophosphate (PO <sub>4</sub> ) (Chemical 200/-)	1,500
28	Hydrogen Sulphide (H <sub>2</sub> S) / Odour (Chemical 200/-)	1,200
29	Sulphate (SO <sub>4</sub> ) (Chemical 200/-)	1,500
30	Organic Matter (Chemical 300/-)	4,500
31	Inorganic Matter (Chemical 300/-)	4,500
32	Biochemical oxygen Demand (BOD) - 5 day (Chemical 400/-)	3,000
33	Chemical Oxygen Demand (COD) (Chemical 500/-)	3,000
34	Dissolved Oxygen (DO) (Chemical 400/-)	1,200
35	Boron (B) (Chemical 1200/-)	4,000
36	Aluminum (Al) (Chemical 500/-)	5,500
37	Silver (Ag) (Chemical 500/-)	5,500
38	Arsenic (As) - using GFAAS (Chemical 600/-)	2,500
39	Selenium (Se) - using GFAAS / Ba (each) (Chemical 900/-)	5,000
40	Ca/Cd/Cr/Cu/Fe/Mg/Mn/Ni/Pb/Zn - using FLAAS (each) (Chemical 500/-)	2,500
41	Na / K - using FLAAS (each) (Chemical 400/-)	3,500
42	Total Organic Carbon (TOC) (Chemical 1000/-)	11,000
43	Dissolved Organic Carbon (DOC) (Chemical 1500/-)	12,000
44	Oil & Grease	15,000
45	Total Silicon/Total Silica (SiO <sub>2</sub> )	7,000
46	Mercury	5,000
<b>BACTERIOLOGICAL ANALYSIS</b>		
1	Fecal Coliform (FC) / Total Coliform (TC) (each) (Chemical 500/-)	2,300
2	Algae / Chlorophyll_a (Chemical 1500/-)	12,000

<b>FECAL SLUDGE ANALYSIS</b>		
1	On-Site Measurement (pH, EC, DO, Turbidity)	Please contact us
2	Solid & Organic Content (TS, TDS, TSS, VS, Fixed Solid, VSS, MC, COD, SCOD, BOD)	
3	Nutrient Contents (TN, NH <sub>3</sub> , NO <sub>2</sub> , NO <sub>3</sub> , TKN, TP, PO <sub>4</sub> )	
4	Anaerobic Disgestion related (Fe, Zn, Ni, Pb, VFA)	
5	Patogenes (E. Coli, FC, Helmeinth egg, Salmonella, Enterococci)	

Sl. No.	Name of Tests	Test Rate (Tk.)
<b>Miscellaneous Saline Water (EC &gt; 5mS/cm) Quality Parameters</b>		
1	pH (Chemical 200/-)	800
2	Colour (True or Apparent) (Chemical 200/-)	1,000
3	Colour Scanning at Specific Wavelength/UV-VIS Range (Chemical 200/-)	2,500
4	Turbidity (Chemical 150/-)	800
5	Carbon-di-Oxide (CO <sub>2</sub> ) / Acidity (Chemical 200/-)	700
6	P-Alkalinity/ M-Alkalinity/T-Alkalinity (Chemical 200/-)	1,000
7	Carbonate (CO <sub>3</sub> ) or Bi-carbonate (HCO <sub>3</sub> ) + pH (Chemical 200/-)	1,500
8	Total Hardness (Chemical 500/-)	2,500
9	Chloride (Cl) (Chemical 500/-)	2,500
10	Fluoride (F) (Chemical 500/-)	2,500
11	Ammonia-Nitrogen (NH <sub>3</sub> - N) (Chemical 800/-)	4,000
12	Nitrate - Nitrogen (NO <sub>3</sub> - N) (Chemical 500/-)	3,000
13	Nitrite - Nitrogen (NO <sub>2</sub> - N) (Chemical 500/-)	3,000
14	Total Nitrogen (TN) (Chemical 2000/-)	16,000
15	Total Kjeldahl Nitrogen (TKN) / Organic Nitrogen (Chemical 3000/-)	17,000
16	Chlorine Content - Total Cl <sub>2</sub> (Chemical 300/-)	1,800
17	Chlorine Content - Free Cl <sub>2</sub> (Chemical 300/-)	1,800
18	Iodine Content (Chemical 300/-)	1,800
19	Bromine Content (Chemical 300/-)	1,800
20	Total Solids (TS) (Chemical 200/-)	2,000
21	Total Suspended Solids (TSS)/Insoluble Solids/(TSS+TDS+TS) (Chemical 500/-)	4,000
22	Total Dissolved Solids (TDS) (Chemical 200/-)	2,000
23	Silica Content (SiO <sub>2</sub> ) (Chemical 500/-)	3,000
24	Electrical Conductivity (EC) (Chemical 500/-)	1,600
25	Total Phosphorous (TP) (Chemical 700/-)	5,000
26	Orthophosphate (PO <sub>4</sub> ) (Chemical 300/-)	2,200
27	Hydrogen Sulphide (H <sub>2</sub> S) / Odour (Chemical 300/-)	1,800
28	Sulphate (SO <sub>4</sub> ) (Chemical 300/-)	2,000
29	Biochemical oxygen Demand (BOD) - 5 day (Chemical 500/-)	4,000
30	Chemical Oxygen Demand (COD) (Chemical 600/-)	5,000
31	Dissolved Oxygen (DO) (Chemical 400/-)	1,000
32	Boron (B) (Chemical 1200/-)	5,000
33	Aluminum (Al) (Chemical 500/-)	6,000
34	Silver (Ag) (Chemical 500/-)	6,000
35	Arsenic (As) - using GFAAS (Chemical 800/-)	4,000
36	Selenium (Se) - using GFAAS / Ba (each) (Chemical 1000/-)	5,500
37	Ca/Cd/Cr/Cu/Fe/Mg/Mn/Ni/Pb/Zn - using FLAAS (each) (Chemical 1000/-)	4,500
38	Na / K - using FLAAS (each) (Chemical 1000/-)	6,000
39	Mercury(Hg)-Cold Vapour Method (Mini. 30 days required) (Chemical 1500/-)	8,000
40	Total Organic Carbon (TOC) (Chemical 1000/-)	12,000
41	Dissolved Organic Carbon (DOC) (Chemical 1500/-)	14,000
42	Total Silicon/Total Silica (SiO <sub>2</sub> )	7,000
<b>BACTERIOLOGICAL ANALYSIS</b>		
1	Fecal Coliform (FC) / Total Coliform (TC) (each) (Chemical 1500/-)	2,500
2	E. Coli (Chemical 1500/-)	6,500
3	Algae / Chlorophyll_a (Chemical 1500/-)	13,500

<b>FINE AGGREGATE PARAMETERS</b>		
1	Lightweight Particles in Aggregate/Coal and Lignite	20,000
2	Alkali-Silica Reactivity	25,000

<b>COARSE AGGREGATE PARAMETERS</b>		
1	Lightweight Particles in Aggregate/Coal and Lignite	30,000
2	Alkali-Silica Reactivity	30,000

<b>ADMIXTURE PARAMETERS</b>		
1	pH	3,000
2	Density/Specific Gravity	4,000
3	Ash	10,000
4	Dry Materials/ Solid Content	5,000
5	Chloride	20,000

Notes: [\* Field visit fee; Inside Dhaka City = Tk. 20,000; Near Districts = Tk. 40,000 ; Farthest Districts = Tk. 60,000 without overnight stay and Tk. 50,000 per day for overnight stay, ] [\* & Transport, local hospitalities, accommodation (in case of overnight stay) etc. are to be provided by the Client]  
S.P.C. = Sample Preparation Charge. For one trial only using client's supplied sample. However, if design is to be performed by BRTC, BUET item at least 3 trial cost should be borne by the client.

Sl. No.	Name of Tests	Test Rate (Tk.)
<b>GRP Board Sandwich Panel</b>		
1	Tensile Strength (5 Nos. from each Sample)	5,100
2	Tensile Modulus (5 Nos. from each Sample)	13,200
3	Flexural Strength (127 mm x 12.7 mm x 3.2mm; 5 Nos.)	5,100
4	Flexural Modulus (100 mm x 10 mm x 4mm; 5 Nos.)	13,200
5	Impact Strength (5 Nos. from each Sample)	5,100
6	Water Absorption (76.2 mm x 25.4 mm x 6mm; 3 Nos.)	3,400
<b>Consultancy on Pile Integrity</b>		
	Per Pile (see conditions a,b,c) (a) Minimum total fees: within Dhaka City - 75,000/- ; Outside Dhaka City 1,15,000/-; Near Districts 1,50,000/- and Farthest Districts 1,75,000/- (b) Integrity tests be done on all piles for a structure (c) Pile load test be done on at least 1% of piles selected on the basis of integrity results	3,000 + *

Sl. No.	Name of Tests	Test Rate (Tk.)
<b>Non-Asbestos Fibre-Cement Board</b>		
1	Modulus of Rupture (6" X 12")	
	2 Nos. Parallel to Fibre Lay from Same Sheet (S.P.C. 900/-)	7,900
	2 Nos. Perpendicular to Fibre Lay from Same Sheet	
2	Modulus of Elasticity (6" X 12")	
	2 Nos. Parallel to Fibre Lay from Same Sheet (S.P.C. 900/-)	14,700
	2 Nos. Parpendicular to Fibre Lay from Same Sheet	
3	Density (from MOR Test)	2,500
4	Size & Shape (5 Nos.)	3,400
5	Water Absorption (4" X 4"; 3 Nos. from Per Sheet) (S.P.C. 700/-)	3,500
6	Moisture Content (from MOR Test)	3,400
7	Water Tightness (24" X 20"; 3 Nos. One from each Sheet) (S.P.C. 700/-)	11,000
8	pH Value (from MOR Test)	1,300
9	Heat & Rain Wall Structures (5' X 4'; 2 Nos.; One from each Sheet)	33,400
<b>Consultancy on Axial Pile Load Capacity</b>		
	Test Supervision & Report (per pile): <b>Minimum total fees:</b> within Dhaka City Tk. 1,35,000/-; Outside Dhaka City 1,75,000; Near Districts, Tk. 2,25,000/- and Farthest Districts Tk. 2,50,000/-	1,07,000 + *

<b>Various Consultancy Services</b>	
1	Land Survey (Planimetric/Topographic/Contour) by Total Station and GPS
2	Cost Estimation of Civil Structures
3	Asset Evaluation of Civil Structures/Industries/Properties
1	Design of Building, Bridges, Airport, Offshore Structures, Drainage Structures etc.
2	Structural Evaluation of Old Civil Structures without Drawings/Records
3	Quality Assurance (QA) of Civil Structures / Flat
4	Certification on Structural Stability of Civil Structures
5	Design Checking of various Concrete and Steel Structures
6	Investigation of Civil Engineering Projects
7	Assessment of Safety for Old Structures
8	Strengthening of Existing Structures
1	Environmental Site Assessment (e.g. for LPG plants, Power plants)
2	Environmental Impact Assessment (EIA) of Civil Engineering Projects
3	Environmental Monitoring of Civil Engineering Projects
4	Design of Solid Waste Disposal Systems
5	Design of Water and Wastewater Treatment Systems
6	Design of Iron Removal Plants
7	Plumbing and Sewer Systems Design
8	Solid, Hazardous and Industrial Waste Management and Pollution Control
9	Design of Water Supply System
10	Training on Water Quality, Water Supply and Sanitation
1	Design and Analysis of Shallow and Deep Foundations
2	Design and Analysis of Embankments
3	Design and Analysis of Earth Retaining Structures
4	Planning of Soil Investigation Programs
5	Planning and Design of Soil Improvement Schemes
6	Seismic Design of Foundation
7	Seismic Hazard Analysis
8	Microzonation Maps
1	Transportation Impact Assessment (TIA) of Civil Engineering Projects
2	Traffic Studies (Volume, O-D, Speed, Delay, Parking etc.)
3	Traffic Forecasting
4	Geometric and Structural Design of Pavements, Parking Lots etc.
5	Planning and Design of Inland Container Terminal/Depot (ICT / ICD)
6	Planning and Design of Airport Terminal
7	Design of Runway Pavement
8	Design of Road/Highways/Bridge/Culverts
9	Planning and Design of Flyover / Underpass / Interchange
10	Road Accident Investigation/Safety Measure/Road Safety Auditing
11	Development of Transportation Model
12	Training on Traffic Studies, Traffic Management, Transportation Planning, Traffic Safety

Notes: [\* Field visit fee; Inside Dhaka City = Tk. 20,000; Near Districts = Tk. 40,000 ; Farthest Districts = Tk. 60,000 without overnight stay and Tk. 50,000 per day for overnight stay, ] [\* & Transport, local hospitalities, accommodation (in case of overnight stay) etc. are to be provided by the Client]  
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