



BIRLA INDUSTRIAL & TECHNOLOGICAL MUSEUM

(A unit of NCSM)

19A, Gurusaday Road, Kolkata – 700019.

Bill of Quantity

Name of work- Renovation of toilets in the store & purchase section, ground floor and computer section of admin building at BITM, Kolkata.

Sl. No.	Description of item	Qty.	Unit	Rate	Amount
1	Dismantling all types of masonry excepting cement concrete plain or reinforced, stacking serviceable materials at site and removing rubbish as directed within a lead of 150m. At any floor including roof.	3	Cum	447.00	1,341.00
2	Dismantling all types of plain cement concrete works, stacking serviceable materials at site and removing rubbish as directed with a lead of 150m at any level. Upto 150 mm thick.	1	Cum	939.00	939.00
3	Dismantling of concealed G.I pipe line, P.V.C pipe, bib cock, pillar cock, stop cock, wash basin, P.V.C cistern, EWC, OPWC etc & staking all the dismantled materials within the campus of BITM.	1	L.S	2,500.00	2,500.00
4	Dismantling Indian W.C. including taking out base concrete as necessary.	3	Each	45.00	135.00
5	Dismantling Orissa pattern W.C. including taking out of base concrete, if necessary, complete.	4	Each	45.00	180.00
6	Dismantling urinal.	5	Each	33.00	165.00
7	Stripping off worn out plaster and raking out joints of walls, ceilings etc upto any height and in any floor including removing rubbish within a lead of 150m as directed.	100	Sqm.	19.00	1,900.00
8	Cleaning the exposed reinforcement preferably upto full diameter by wire brush, applying two coats of polymer based rust removing compound left for 24 hours, removing the coating and then applying two (2) coats of polymer modified anti corrosive protective coating formulated to inhibit the corrosion of reinforcement as per manufacturer's specification.				
8.1	Providing & applying rust removing compound (Sika Rustoff 100 or equivalent).	1	Kg	345.00	345.00
8.2	Providing & applying polymer modified anti corrosive protective coating (Sika Rustop or equivalent).	2	Kg	271.00	542.00
9	Providing & mixing polymer based water resistant, bonding agent like Dr. Fixit 101 LW+/- Sika Latex power or equivalent in cement plaster, concrete etc. as per manufacture's specification and direction of EIC.	5	Lit.	360.00	1,800.00
10	Brick work with 1st class bricks (Class designation 75) in cement mortar (1:6). In superstructure at any floor.	1	Cum	5,636.00	5,636.00
11	125mm thick brick work with 1st class bricks in cement mortar (1:4) at any floor.	15	Sqm.	736.00	11,040.00
12	Plaster (to wall, floor, ceiling etc.) with sand and cement mortar including rounding off or chamfering corners as directed and raking out joints including throating, nosing and drip course, scaffolding/staging where necessary at any height.				
12.1	With 1:6 cement mortar, 15 mm thick plaster.	60	Sqm.	151.00	9,060.00
12.2	With 1:3 cement mortar, 10 mm thick plaster.	25	Sqm.	139.00	3,475.00

13	Neat cement punning about 1.5mm thick in wall, dado, window, sill, floor etc. NOTE: Cement 0.152 cu.m per100 sq.m.	10	Sqm.	34.00	340.00
14	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering at any floor/ level as per relevant IS code. 1:1½:3 (1 Cement: ½ coarse sand (zone-III) : 3 graded stone aggregate 20 mm nominal size).	0.75	Cum	6,757.00	5,067.75
15	Reinforcement for reinforced concrete work in all sorts of structures including distribution bars, stirrups, binders etc. including supply of rods, initial straightening and removal of loose rust (if necessary), cutting to requisite length, hooking and bending to correct shape, placing in proper position and binding with 16 gauge black annealed wire at every intersection, complete as per drawing and direction. For works in foundation and upto roof of ground floor/ upto 4 m using Tor/HYSD steel. (JSW/JSPL/SHYAM/SRMB/BMASL/ELECROSTEEL/SSL)	0.01	MT	60,150.00	601.50
16	Hire and labour charges for shuttering with centering and necessary staging upto 4 m using approved stout props and thick hard wood planks of approved thickness with required bracing for concrete slabs, beams, columns, lintels, curved or straight including fitting, fixing and striking out after completion of works. 25mm to 30mm thick wooden shuttering as per decision & direction of Engineer-In-Charge.	5	Sqm.	335.00	1,675.00
17	Rendering the surface of walls and ceiling with Ready mixed Acrylic wall putty of approved make and brand (1.5mm thick) and prepare the surface even and smooth all complete.	85	Sqm.	122.00	10,370.00
18	Applying Interior grade Acrylic Primer of approved quality and brand on plastered or concrete surface in old or new work to receive Distemper/ Acrylic emulsion paint including scraping and preparing the surface thoroughly, complete as per manufacturer's specification and as per direction of the EIC at any floor. Water based interior grade Acrylic Primer One coat. Physical consumption of primer will be verified with the actual area of painted surface and penalty @Rs.130/lit will be imposed if any deviation is found with respect to the consumption of primer according to the manufacturer's specifications.	85	Sqm.	30.80	2,618.00
19	Applying Acrylic Emulsion Paint of approved make and brand (Asian Paints Apcolite/ ICI Dulux Super Clean / Berger Easy clean) on walls and ceiling including sand papering in intermediate coats including putty (to be done under specific instruction of Superintending Engineer) : Two or more coats with Luxury Quality Acrylic Emulsion Paint. (Rate is inclusive of applying additional coats wherever required to achieve even shade and colour.) Physical consumption of paint will be verified with the actual area of painted surface and penalty @Rs.440/lit will be imposed if any deviation is found with respect to the consumption of paint according to the manufacturer's specifications.	85	Sqm.	70.00	5,950.00

20	Supplying, fitting and fixing PVC pipes of approved make of Schedule 80 (medium duty) conforming to ASTM D - 1785 and threaded to match with GI Pipes as per IS : 1239 (Part - I). with all necessary accessories, specials viz. socket, bend, tee, union, cross, elbo, nipple, long screw, reducing socket, reducing tee, short piece etc. fitted with holder bats clamps, including cutting pipes, making threads, fitting, fixing etc. complete in all respect including cost of all necessary fittings as required, jointing materials and two coats of painting with approved paint in any position above ground. (Payment will be made on the centre line measurements of total pipe line including all specials. No separate payment will be made for accessories, specials. Payment for painting will be made separately). For Concealed work, 25 mm dia.	45	Metre	205.00	9,225.00
21	Supplying, fitting and fixing PVC pipes of approved make of Schedule 40 (medium duty) conforming to ASTM D - 1785 and threaded to match with GI Pipes as per IS : 1239 (Part - I). with all necessary accessories, specials viz. socket, bend, tee, union, cross, elbo, nipple, long screw, reducing socket, reducing tee, short piece etc. fitted with holder bats clamps, including cutting pipes, making threads, fitting, fixing etc. complete in all respect including cost of all necessary fittings as required, jointing materials and two coats of painting with approved paint in any position above ground. (Payment will be made on the centre line measurements of total pipe line including all specials. No separate payment will be made for accessories, specials. Payment for painting will be made separately) For Concealed work, 40 mm dia.	25	Metre	230.00	5,750.00
22	Supply of UPVC pipes (B Type) & fittings conforming to IS-13592-1992, Single Socketed, 110 mm dia.	30	Metre	292.00	8,760.00
	UPVC Fittings				
	Plain Tee: 110 mm dia.	4	Each	172.00	688.00
	Plain Y: 110 mm dia.	4	Each	223.00	892.00
	Bend 87.5 degree: 110 mm dia.	8	Each	140.00	1,120.00
	Shoe: 110 mm dia.	4	Each	111.00	444.00
	Door Tee: 110 mm dia.	8	Each	195.00	1,560.00
	Door Bend 87.5 degree: 110 mm dia.	8	Each	120.00	960.00
	Half Bend 45 degree: 110 mm dia.	4	Each	89.00	356.00
	Vent Cowl: 110 mm dia.	4	Each	33.00	132.00
	Pipe Clip: 110 mm dia.	10	Each	21.00	210.00
23	Labour for fitting and fixing U.P.V.C. pipes for above ground work including cost of jointing materials etc. fitting and fixing all necessary specials, cutting pipes, cutting holes in walls or R.C. floor where necessary and mending good all damages excluding the cost of masonry or concrete work, if necessary, but including the cost and fitting and fixing holder bat clamps (any floor) or for underground work including cutting trenches upto 1.5 metre and refilling the same complete as per direction of the Engineer in-charge. (Payment will be made on centre line measurement of the total pipeline including specials. 110 mm dia.	30	Metre	57.00	1,710.00
24	Supply, fitting and fixing C.I. round grating (150mm dia).	15	Each	85.00	1,275.00
25	Supplying, fitting and fixing E.W.C. in white glazed vitreous chinaware of approved make complete in position with necessary bolts, nuts etc. With 'S' trap (Make: Parryware / Hindware).	5	Each	1,512.00	7,560.00

26	Supplying, fitting and fixing 10 litre P.V.C. low-down cistern conforming to I.S. specification with P.V.C. fittings complete, C.I. brackets including two coats of painting to bracket etc. (Make: Parryware / Hindware).	5	Each	1,015.00	5,075.00
27	Supplying, fitting and fixing Closet seat of approved make with lid and C.P. hinges, rubber buffer and brass screws complete. (a) E.W.C. Bestolite (solid type) white.	5	Each	715.00	3,575.00
28	Supplying, fitting and fixing white vitreous china best quality approved make wash basin with C.I. brackets on 75 mm X 75 mm wooden blocks, C.P. waste fittings of 32 mm dia., one approved quality brass C.P. pillar cock of 15 mm dia., C.P. chain with rubber plug of 30 mm dia., approved quality P.V.C. waste pipe with C.P. nut 32 mm dia., 900 mm long approved quality P.V.C. connection pipe with heavy brass C.P. nut including mending good all damages and painting the brackets with two coats of approved paint. (Make: Hindware/Parryware, Pillar cock of approved make CP Pillar Cock - 15 mm FLORENTINE of JAQUAR or equivalent).				
28.1	i) 550 mm X 400 mm size	5	Each	2,208.00	11,040.00
28.2	ii) Angle back wash basin 400 mm X 400 mm size	3	Each	2,034.00	6,102.00
29	Supplying, fitting and fixing pedestal of approved make for wash basin (white) (Make: Hindware/Parryware).	5	Each	1,497.00	7,485.00
30	Supplying, fitting and fixing Chromium plated Bib Cock with wall flange (Equivalent to Code No. 5047 & Model - Florentine of Jaquar or similar brand).	5	Each	861.00	4,305.00
31	Supplying, fitting and fixing Chromium plated angular Stop Cock with wall flange (Equivalent to Code No. 5053 & Model - Florentine of Jaquar or similar brand).	22	Each	815.00	17,930.00
32	Supplying, fitting and fixing pillar cock of approved make CP Pillar Cock - 15 mm. (Code No. 5011 & Model - FLORENTINE of JAQUAR or equivalent).	1	Each	857.00	857.00
33	Supplying, fitting and fixing towel rail with two brackets- C.P. over brass. Size: 25 mm dia. and 600 mm long.	5	Each	430.00	2,150.00
34	Supplying, fitting and fixing Cromium plated liquid soap container.	8	Each	393.00	3,144.00
35	Supplying, fitting and fixing UPVC (Unplasticised PVC) Ball Valve , 25 mm dia.	3	Each	239.00	717.00
36	Supplying, fitting and fixing shower of approved brand and make. Hand Shower(Health Faucet) with 1mtr Flexible Tube with Wall Hook(Equivalent to Code No.573 & Model -ALLIED of Jaquar or approved).	5	Each	1,251.00	6,255.00
37	Supplying, fitting and fixing best quality Indian make mirror 5.5 mm thick with silvering as per I.S.I. specifications supported on fibre glass frame of any colour, frame size 550 mm X 400 mm.	5	Each	613.00	3,065.00
38	Supplying, fitting & fixing 1st quality Ceramic tiles in walls & floors to match with the existing work & 4 nos. of key stones (10mm) fixed with araldite at the back of each tile & finishing the joints with white cement mixed with colouring oxide if required to match the colour of tiles including roughening of concrete surface, if necessary or by synthetic adhesive & grout materials etc. In walls with Sand Cement Mortar (1:3) 15 mm thick & 2 mm thick cement slurry at back side of tiles using cement @ 2.91 Kg/Sq.m & joint filling using white cement slurry @ 0.20kg/Sq.m. Area of each Coloured decorative premium quality tile of size-450 mm x 300 mm. (Make: Kajaria / NITCO / Orient Bell).	110	Sqm.	757.00	83,270.00

39	<p>Supplying and laying true to line and level Anti Skid, Full Body, Homogeneous & Granular finish Vitrified Tiles conforming to IS:15622-2006 & IS 4457-2007 and testing shall be made in accordance with IS:13630 [Non- modular sizes for tiles with Skid resistance > 0.5, Mohr's hardness > 5.0, Staining resistance:Class-1, Water Absorption: E < 0.5%], MOR > 35 N/sq.mm in Internal area of building e.g. Toilet Block, Passage, Corridor, Accessible Open Terrace etc. set in 20 mm sand cement mortar (1:4) and 2 mm thick cement slurry at back side of tiles using cement @ 2.91 Kg./Sqm or using Polymerised Adhesive (6 mm thick layer applied directly over finished artificial stone floor/ Mosaic etc without any backing course) laid after application slurry using 1.75 Kg of cement per Sqm below mortar only, joints grouted with admixture of white cement and colouring pigment to match with colour of tiles/ epoxy grout materials of approved make as directed and removal of wax coating of top surface of tiles with warm water and polishing the tiles using soft and dry cloth upto mirror finish complete including the cost of materials, labour and all other incidental charges complete true to the manufacturer's specification and direction of Engineer-in-Charge. (White cement, synthetic adhesive and grout material to be supplied by the contractor).</p> <p>a) In Ground Floor: Sizes-300 mm x300mm x10 mm with breaking strength > 1200 N</p>	26	Sqm.	906.00	23,556.00
40	<p>Supplying, fitting and fixing Flat back full stall urinal in white vitreous chinaware of approved make in position with brass screws on 75 mm X 75 mm X 75 mm wooden blocks complete. Size: 635 mm X 395 mm X 420 mm.</p>	5	Each	2,869.00	14,345.00
41	<p>Supplying, Fitting & Fixing Factory made P.V.C. door frame of size 50 mm x 47mm with a wall thickness of 5mm, made out of extruded 5 mm, PVC sheet miter cut at two corners and joined with two nos of 1.5 mm long brackets of 15mm x 15mm M.S. square tube. The two vertical door profiles are to be reinforced with 19mm x 19mm M.S. Square tube of 19 gauge, weather seal to be provided through out the frame. The door frame shall be fixed with the wall using 65/100 mm long M.S. Screws through the frame by using P.V.C fasteners. A minimum of 4 Nos of screws to be provided for each vertical member and minimum 2 Nos for horizontal member etc. complete as per Manufacturer's specification and direction of Engineer-in-Charge. (Make: Sintex)</p>	30	Mtr.	305.00	9,150.00

42	Supplying, Fitting & Fixing 30 mm thick Factory made solid Panel PVC Door Shutter consisting of outer frame made out of M.S. tubes of 19 gauge thickness and size 19 mm x19 mm for styles, top and bottom rails, M.S. frame shall have cost of steel primers of approved make and manufacture, M.S. frame covered with 5mm thick heat moulded PVC "C" channel of size 30 mm th, 70 mm width out of which 50 mm shall be flat and 20 mm shall be tapered in 45 degree angle on either sides forming styles; and 5mm thick 95 mm wide PVC sheet out of which 75mm shall be flat and 20 mm tapered in 45 degree on the inner side to form top & bottom rail and 115 mm wide PVC sheet out of which 75mm shall be flat and 20mm shall be tapered on both sides to form lock rail. Top, bottom and lock rails shall be provided either side of the panel with 10 mm (5 mm x 2) thick, 20 mm wide cross PVC sheet as gap insert for top rail and bottom rail. Paneling of 5mm thick both side PVC sheet to be fitted in the M.S. frame welded/sealed to the styles & rails with 7 mm (5 mm+2 mm) thick x15 mm wide PVC sheet beading on inner side and joined together with solvent cement adhesive. An additional 5 mm th. PVC strip of 20 mm which is to be stuck on the interior side of the "C" channel using PVC solvent adhesive etc. complete including all necessary hardwares like SS hinges, handle, tower bolt etc. as per direction of Engineer-in-Charge. (Make: Sintex)	10	Sqm	1,943.00	19,430.00
43	Supplying, fitting and fixing fiber reinforced polymer (FRP) Composite door frame as per approved section with glass fiber reinforced plastic moulded skins and a special sandwich core, so as to impart monolithic composite structure as per approved technology of Department of Science and Technology (DST) to satisfy IS: 4020 door testing performance criteria. Size: 66 mm x 70 mm.	10	Mtr	446.00	4,460.00
44	Supplying, fitting & fixing fiber reinforced polymer (FRP) composite door shutters as per approved design with glass fiber reinforced plastic moulded skins and a special sandwich core, so as to impart monolithic composite structure as per approved technology of Department of Science and Technology (DST) to satisfy IS:4020 door testing performance criteria. 25 mm thick panel.	5	Sqm	2,581.00	12,905.00
45	Removal of rubbish, earth, scrap material etc. from the working site and dispose of the same beyond the compound in conformity with Municipal/Corporation rules for such disposal, loading into truck and cleaning the site in all respect as per direction of Engineer in charge.	1	Trip	3,000.00	3,000.00

Cost of Civil works = 3,48,138.25
 GST, as applicable over cost of Civil work @ 18% = 62,664.89
 Cost of Civil works excluding labour welfare cess = 4,10,803.14
 Labour welfare cess @ 1% = 4,108.03
Total amount of Civil Work = 4,14,911.17
Say Rs. 4,14,911.00