

DETAILED ESTIMATE

FOR CIVIL WORK OF PROPOSED 2 No. LABORATORY AT
S. N. BOSE NATIONAL CENTRE FOR BASIC SCIENCES
AT SALT LAKE, KOLKATA.

Sl. No.	Description of Item	UNIT	QTY	RATE (Rs.)	AMOUNT (Rs.)
1	Demolishing R.C.C. work manually/ by mechanical means including stacking of steel bars and disposal of unserviceable material within 50 metres lead as per direction of Engineer - in- charge.	Cum	3		
2	Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.	Cum	10		
3	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30cm in depth. 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed for all kinds of soil.	Cum	300		
4	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	Cum	450		
5	Filling in foundation or plinth by silver sand in layers not exceeding 150 mm. as directed and consolidating same by thorough saturation with water ramming complete, including the cost of supply of sand. (Payment to be made on measurement of finished quantity).	Cum	200		
6	Suppling & laying polythene sheet (150 gm /sqm) over damp proof coarse or below flexing , or roof ttrecing or in foundation trenches.	Sqm	200		
7	Single brick flat soling of picked jhama bricks including ramming and dressing bed to proper level and filling joints with powdered earth or local sand.	Sqm	1400		
8	Neat cement punning about 1.5 mm. thick in wall, dado, window, sills, floor, drain etc.	Sqm	200		
9	Treatment to the back-filling of R.C.C. foundation with chemical emulsion by admixing chloropyrefos emulsifiable concrete (1% concentration) with water by weight at the rate of 7.5 lt. per sq.m. of the vertical surface of the substructure of each side of the foundation. The work shall be carried out as per specification as described in para 6.3.1 of IS 6313 (Part II) 1981 (Mode of measurement will be per sq.m. of vertical areaof foundation treated).	Sqm	650		

Sl. No.	Description of Item	UNIT	QTY	RATE (Rs.)	AMOUNT (Rs.)
10	Pre- Constructional Anti- termite measures:- Antitermite treatment to the top surface of the consolidated earth within plinth walls with chemical emulsion by admixing chloropyrefos emulsifiable concentrates (1% concentration) with water by weight at the rate of 5 liters per sq.m. of the surface before sand bed or sub-grade is laid. Holes upto 50mm to 75mm deep at 150mm center to center both ways shall be made with 12mm diameter mild steel rod on the surface to facilitate saturation of the soil with chemical emulsion. The work shall be carried out as per specification described in para 6.4 of code IS-6313 (Part-II) 1981. (Mode of measurement will be per sq.m. of plan area of plinth treated).	Sqm	1200		
11	Supplying chemical emulsion in sealed containers including delivery as specified of Chlorpyriphos/ Lindane emulsifiable concentrate of 20% .	litre	250		
12	Providing and laying in position specified grade of reinforced cement concrete 1:1.5:3 (1 Cement : 1.5 coarse sand : 3 graded stone aggregate 20 mm nominal size) excluding the cost of centring, shuttering, finishing and reinforcement for all work. a) upto plinth level b) above plinth level	Cum Cum	230 130		
13	Reinforcement (Thermo-Mechanically Treated bars) for R.C.C. work in all sorts of structures including straightening, cutting, bending, hooking, placing in proper position and binding with 16 gauge black annealed wire at every intersection, all complete a	MT	35		
14	Centring and steel shuttering including strutting, propping etc. and removal of form for : a) Foundations, footings, bases of columns, etc. for mass concrete. b)Column, Lintels, beams, plinth beams, girders, bressumers and cantilevers.	Sqm Sqm	350 1475		
15	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : i) 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size).	Cum	5		
16	Providing and laying damp-proof course 40mm thick with cement concrete 1:2:4 stone (1 cement : 2 coarse sand : 4 graded stone aggregate 12.5mm nominal size).	Sqm	65		
17	a) Extra for providing and mixing water proofing material in cement concrete work in doses by weight of cement as per manufacturer's specification.	Per 50 kg cement	60		
18	Making plinth protection 50mm thick of cement concrete 1:2:4(1 cement :2 coarse sand : 4 graded stone aggregate 20 mm nominal size) over 75mm thick bed of dry brick ballast 50 mm nominal size, well rammed and consolidated and grouted with fine sand including finishing the top surface smooth.	Sqm	150		

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19	Plaster (to wall, floor, ceiling etc.) with sand and cement mortar including rounding off or chamfering corners as directed and raking out joints or rougening of concrete surface, including throating, nosing and drip course where necessary.				
	a) 20 mm. thick plaster (6:1)	Sqm	1000		
	i) In Ground floor				
	b) 15 mm. thick plaster (6:1)	Sqm	1150		
	i) In Ground floor				
20	Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 with Cement mortar 1:4 (1 cement : 4 coarse sand)				
	i) in foundation and plinth :	Cum	45		
21	Providing 250 thk. Brick work in cement mortar.(1:4) using Rat-trap bond in superstructure with approved quality of clean course sand of F.M. 2 to 2.5 including providing 10mm. Thick mortar joints, costs of screening, materials, scaffolding, raking out joints to 15 mm. depth curing, taxes and royalty all complete as per building specification and direction of E.I.C.	Cum	200		
22	Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level. Cement mortar 1:4 (1 cement :4 coarse sand)	sqm	65		
23	Supplying and fixing rolling shutters of approved make, made of required size M.S. laths, interlocked together through their entire length and jointed together at the end by end locks, mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation complete, including the cost of providing and fixing necessary 27.5 cm long wire springs manufactured from high tensile steel wire of adequate strength conforming to IS: 4454 - part 1 and M.S. topcover of required thickness for rolling shutters.				
	i) 80x1.25mm M.S. laths with 1.25 mm thick top cover.	Sqm	25		
	ii) Providing and fixing ball bearing for rolling shutters.	each	20		
	iii) Extra for providing mechanical device chain and crank operation for operating rolling shutters exceeding 10.00 sqm and upto 16.80 sqm in the area..	Sqm	25		
24	Steel work in built up tubular (round, square or rectangular hollow tubes etc.) trusses etc., including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer and two coate of approved synthetic enamel paint including welding and bolted with special shaped washers etc. complete.	MT	28		
25	Supplying, fitting and fixing of 0.71 mm thick Industrial Tough Profile Aluminium alloy sheet or Galvalume sheet (excluding the supporting frame work) fitted fixed with 10mm dia. J or L hook - bolt, limpet and bitumen washers and putty complete with 150mm end lap and one corrugation minimum side lap mm thick sheet. (Payment to be made on area of finished work) approved make by Durashine or Durakolor.	Sqm	1300		
26	Supplying, fitting and fixing of 0.71 mm thick Industrial Tough Profile Aluminium alloy sheet ridge, fitted with necessary bolt, screw, washers etc complate of 250 mm laping each way. (Payment to be made on area of finished work)	Mtr.	80		

SI. No.	Description of Item	UNIT	QTY	RATE (Rs.)	AMOUNT (Rs.)
27	Providing and laying vitrified floor tiles, Size of Tile 60 x 60 cm (thickness to be specified by the manufacturer) with water absorptions less than 0.08% and conforming to IS: 15622 of approved make in all colours and shades, laid on 20 mm thick cement mortar 1:4 (1 cement : 4 coarse sand) including grouting the joints with white cement and matching pigments etc. complete.	Sqm	725		
28	Providing and laying rectified Glazed Ceramic floor tiles 300x300 mm or more (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in all colours, shades except White, Ivory, Grey, Fume Red Brown laid on 20mm thick bed of Cement Mortar 1:4 (1 Cement : 4 Coarse sand) including pointing the joints with white cement and matching pigments etc., complete.	Sqm	12		
29	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS:15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, bottle green, black of any size as approved by Engineer-in-Charge, in skirting, risers of steps and dados, over 12 mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm, including pointing in white cement mixed with pigment of matching shade complete.	Sqm	45		
30	Kota stone slab 25mm thick flooring over 20mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment match the said of the slab including grinding and polishing complete with base of cement mortar 1:4 (1 cement : 4 coarse sand) as per direction of Engineer in- Charge.	Sqm	10		
31	Cement concrete with 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) including compaction, maintaining slope, finishing as per direction of Engineer-in-Charge all complete.	Cum	10		
32	Providing and applying wall putty of 2 mm thickness over plastered surface to prepare the surface even and smooth complete.	Sqm	1075		
33	Cement primer approved make on plastered surface to receive flat wall paint or plastic emulsion paint including preparation of surface by sand papering, putty etc.	Sqm	2250		
34	Acrylic distemper approved make to wall ceiling with a coat of priming including cleaning and smoothening surface(two coats)	Sqm	1075		
35	Finishing walls with acrylic exterior paint of required shade & approved make and brand New work (Two or more coats applied @ 3.28 ltr/10 sqm) over and including priming coat of exterior primer applied 2.20kg/10 sqm.	Sqm	1150		
36	Priming one coat on timber, plastered or on steel or other metal surface with synthetic enamel/ oil bound primer of approved quality including smoothening surfaces by sand papering etc.	Sqm	10		
37	Painting with best quality synthetic enamel paint of approved make and brand including smoothening surface by sand papering etc. including using of approved putty etc. on the surface, if necessary : a) On steel or other metal surface :				

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	With super gloss (hi-gloss) - i) Two coats (with any shade except white)	Sqm	20		
39	Providing & applying EPOXY bonding agent Sika Hi Bond between old & new concrete as per manufacture specification.	Sqm	4		
40	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) maintaining proper slope including necessary earth work in excavation in all sorts of soil, back filling with earth, repairing all damages and removing spoils after work complete in all respect with all costs of labour and materials, testing of joints etc. all complete as per direction of Engineer-in-Charge.				
	a) 250 mm dia. R.C.C. pipe	metre	40		
	b) 300 mm dia. R.C.C. pipe	metre	25		
41	Providing and fixing aluminium work for for doors, windows, ventilators partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS: 1285, fixing with dash fasteners of required dia and size, including necessary filling up the gaps at junctions, i.e. at top, bottom and sides with required EPDM rubber/ neoprene gasket etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / architectural paneling, C.P. brass / stainless steel screws, all complete as per drawings and the directions of Engineer-in-charge. (Glazing with 4mm thick float/frosted glass, paneling and dash fasteners all inclusive & complete in all aspect)				
	i) For fixed portion (polyester powder coating 50 micron)	Sqm.	580		
	ii) For shutters of doors, windows & ventilators including providing and fixing hinges/ pivots and making provision for fixing of fittings wherever required including the cost of EPDM rubber / neoprene gasket required (Fittings shall be paid for separately) including locking arrangement as per direction of EIC.	Sqm.	130		
42	Providing , fitting fixing of hard reflecting Mineral fibre ceiling tile Size 595 mm x 595 mm false ceiling in front of stage & and above stage ,the frame work to be made of G. I. For barricaded long cross tee 26 x 24x 1200 mm, main tee 38x24x3600mm & angle 3000mm long (white colour) etc. Grid 600x 600mm centre to centre to be hung with G.I. hanger from existing roof with necessary bullets and screws as required ; 12 mm thick white -Tegular group classic light board to be fixed on the frame work as directed by the Engineer –in-charge.				
	a) Amstrong brand white colour board ceiling	Sqm	1100		
43	Supplying Providing , fitting fixing of hard reflecting false ceiling in front of stage & and above stage ,the frame work to be made of G. I. For barricaded c-channel , patty ,angle etc 600x 300mm centre to be hung with G.I. hanger from existing roof 12.5 mm plain Gypsum board to be fixed on the frame work .one coat of primer + 2 coat of acrylic paint be done after proper preparing the surface of the Engineer –in-charge.	Sqm	10		

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44	Providing and fixing thermal insulation of ceiling (under deck insulation) with Resin Bonded Rockwool conforming to IS: 8183, density 48 kg/ m ³ , 50 mm thick, wrapped in 200 G Virgin Polythene bags fixed to ceiling with metallic cleats (50x50x3 mm) @ 60 cm and wire mesh of 12.5mm x 24 gauge wire mesh, for top most ceiling of building.	Sqm	1100		
45	Providing and fixing double action hydraulic floor spring of approved brand and manufacture conforming to IS : 6315, having brand logo embossed on the body / plate with double spring mechanism and door weight upto 125 kg, for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and With stainless steel cover plates minimum 1.25 mm thickness with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge.	Each	20		
46	Providing and fixing aluminium tubular handle bar 32 mm outer dia, 3.0 mm thick & 300 mm long with SS screws etc .complete as per direction of Engineer-in-Charge.	each	20		
47	Providing and laying 60mm thick factory made cement concrete interlocking paver block of M -30 grade made by block making machine with strong vibratory compaction, of approved size, design & shape, laid in required colour and pattern over and including 50mm thick compacted bed of fine sand, filling the joints with fine sand etc. all complete as per the direction of Engineer-in-charge.	sqm	60		
48	Providing and fixing Fibre Glass Reinforced plastic (FRP) Door Frames of cross-section 90mm x 45mm having single rebate of 32mm x 15mm to receive shutter of 30mm thickness. The laminate shall be moulded with fire resistant grade unsaturated polyester resin and chopped mat. Door frame laminate shall be 2mm thick and shall be filled with suitable wooden block in all the three legs. The frame shall be covered with fibreglass from all sides. M.S. stay shall be provided at the bottom to steady the frame.	M	15		
49	30mm thick fibre glass reinforced plastic (FRP) flush door shutter indifferent plain and wood finish made with fire retardent grade unsaturated polyester resin, moulded to 3mm thick FRP laminate all round, with suitable wooden blocks inside at required places for fixing of fittings and polyurethane foam (PUF)/ polystyrene foam to be used as filler material throughout the hollow panel, casted monolithically with testing parameters of F.R.P. laminate conforming to table - 3 of IS: 14856-2000, complete as per direction of Engineer-in-charge.	Sqm	6		
50	Welding with all necessary equipments, accessories, tools etc. complete in all aspects including labour.	Cm	200		
TOTAL COST				Rs.	