

MALAVIYA NATIONAL INSTITUTE OF TECHNOLOGY JAIPUR

TENDER DOCUMENT

VOLUME - II

**BILL OF QUANTITIES
(B.O.Q.)**

NAME OF WORK:

Extention of Concrete Laboratory

AT

MALAVIYA NATIONAL INSTITUTE OF TECHNOLOGY, JAIPUR

MALAVIYA NATIONAL INSTITUTE OF TECHNOLOGY JAIPUR

ESTATE SECTION

G-Schedule

Name of the work: Extension of concrete Laboratory.

Time for Execution : Six Months

Part A: Civil Work

S.N.	Description	Unit	Qty	Rates (in Rs.)	Amount (in Rs.)
1	EARTH WORK Earth work in rough excavation, banking excavated earth in layers not exceeding 20 cm in depth, breaking clods watering, rolling each layer with ½ tonne roller or wooden or steel rammers, and rolling every 3rd and top most layer with power roller of minimum 8 tonnes and dressing up in embankments for roads, flood banks, marginal banks and guide banks or filling up ground depressions, lead upto 50 m and lift upto 1.5 m :				
	All kinds of soil	cum	100.00		
2	BRICK WORK Brick work with F.P.S. bricks of class designation 75 in foundation and plinth in:				
	Cement mortar 1:4 (1 cement : 4 coarse sand)	cum	80.00		
3	CONCRETE WORK Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :				
	1:1½:3 (1 Cement : 1½ coarse sand : 3 graded stone aggregate 20 mm nominal size).	cum	15.00		
4	CONCRETE WORK Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :				
	1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size).	cum	50.00		
5	Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. upto floor five level excluding cost of centring, shuttering, finishing and reinforcement :				
	1:1½:3 (1 cement : 1½ coarse sand : 3 graded stone aggregate 20 mm nominal size)	cum	4.00		
6	Centring and shuttering including strutting, propping etc. and removal of form for :				
	Columns, Pillars, Piers, Abutments, Posts and Struts.	sqm	8.00		
7	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete.				
	Thermo-Mechanically Treated bars.	kg	200.00		

S.N.	Description	Unit	Qty	Rates (in Rs.)	Amount (in Rs.)
	STONE WORK				
8	Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20mm nominal size) at plinth level with :				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	350.00		
9	Finishing walls with Acrylic Smooth exterior paint of required shade :				
	New work (Two or more coat applied @ 1.67 ltr/10 sum over and including base coat of water proofing cement paint applied @ 2.20 kg/ 10 sum).	sqm	350.00		
10	Providing and fixing hard drawn steel wire fabric 75x25 mm mesh of weight not less than 7.75 Kg per sum to window frames etc. including 62x19 mm beading of second class teak wood.	sqm	50.00		
11	Steel work in built up tubular trusses including cutting, hoisting fixing in position and applying a priming coat of approved steel primer, welded and bolted including special shaped washers etc. complete.				
	Electric resistance or induction butt welded tubes.	kg	1000.00		
12	Steel work welded in built up sections/ framed work including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				
	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works.	kg	14000.00		
13	Kota stone slab flooring over 20 mm (average) thick base laid over and jointed with grey cement slurry mixed with pigment to match the shade of the slab including rubbing and polishing complete with base of cement mortar 1 : 4 (1 cement : 4 coarse sand) :				
	25 mm thick.	sqm	300.00		
	ROOFING				
14	Providing corrugated G.S. sheet roofing including vertical/ curved surface fixed with polymer coated J or L hooks, bolts and nuts 8 mm diameter with bitumen and G.I. limpet washers or with G.I. limpet washers filled with white lead and including a coat of approved steel primer and two coats of approved paint on overlapping of sheets complete upto any pitch in horizontal/ vertical or curved surfaces) excluding the cost of purlins, rafters and trusses and including cutting to size and shape wherever required.				
	1.00mm thick with zinc coating not less than 275gm/m ²	sqm	350.00		

S.N.	Description	Unit	Qty	Rates (in Rs.)	Amount (in Rs.)
15	Providing 10 mm thick plaster of Paris (gypsum anhydrous)/Birla Putty ceiling upto a height of 5 m above floor level over first class kail wood strips 25x6 mm with 10 mm gap in between and reinforced with rabbit wire mesh fixed to wooden frame (frame work to be paid separately) :				
	Flat surfaces	sqm	300.00		
16	Providing & fixing UV stabilised fibreglass reinforced plastic sheet roofing upto any pitch including fixing with polymer coated 'J' or 'L' hooks, bolts & nuts 8mm dia. G.I plain/bitumen washers complete but excluding the cost of purlins, rafters, trusses etc. The sheets shall be manufactured out of 2400 TEX panel rovigs incorporating minimum 0.3% Ultra-violet stabiliser in resin system under approximately 2400 psi and hot cured. They shall be of uniform pigmentation and thickness without air pockets and shall conform to IS 10192 and IS 12866.The sheets shall be opaque or translucent, clear or pigmented, textured or smooth as specified.				
	2mm thick corrugated (2.5" or 4.2" or 6") or step-down (2"or 3"or 6") as specified.	sqm	150.00		
17	Providing sand stone slab for roofing and laying them in cement mortar 1 : 4 (1 cement : 4 coarse sand) over wooden karries or R.C.C. battens (Karries and battens to be paid separately) including pointing the ceiling joints with cement mortar 1:3 (1 cement : 3 fine sand) complete :				
	White sand stone slab : 40 to 50 mm thick	sqm	10.00		
18	Distempering with oil bound washable distemper of approved brand and manufacture to give an even shade				
	New work (two or more coats) over and including priming coat with cement primer.	sqm	500.00		
19	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade:				
	Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture.	sqm	150.00		
20	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	50.00		
21	Demolishing stone rubble masonry 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:				
	In cement mortar	cum	100.00		

S.N.	Description	Unit	Qty	Rates (in Rs.)	Amount (in Rs.)
22	Dismantling of flexible pavement (bituminous courses) by mechanical means and disposal of dismantled material upto a lead of 1000 metres, as per direction of Engineer-in-charge.	cum	100.00		
23	Providing and fixing G.I. pipes complete with G.I. fittings including trenching and refilling etc. External work :				
	25 mm dia. nominal bore	metre	100.00		
24	Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee, including cutting and threading the pipe etc. complete :				
	25 to 40 mm nominal bore	each	3.00		
25	Providing and fixing gun metal gate valve with C.I. wheel				
	25 mm nominal bore	each	3.00		
26	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete :				
	25 mm nominal bore	each	1.00		
27	Providing and fixing G.I. Union in G.I. pipe including cutting and threading the pipe and making long screws etc. complete (New work)				
	25 mm nominal bore	each	5.00		
28	Providing and fixing aluminium work for doors, windows, ventilators and partitions with extruded built up standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS: 733 and IS : 1285, fixed with rawl plugs and screws or with fixing clips, or with expansion hold fasteners including necessary filling up of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle, Aluminium snap beading for glazing / panelling, C.P. brass / stainless steel screws, all complete as per architectural drawings and the directions of Engineer-in-charge. (Glazing and panelling to be paid for separately) :				
	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 PVC / neoprene gasket required (Fittings shall be paid for separately).				
	Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	kg	60.00		

S.N.	Description	Unit	Qty	Rates (in Rs.)	Amount (in Rs.)
29	Providing and fixing glazing in aluminium door, window, ventilator shutters and partitions etc. with PVC/ neoprene gasket etc. complete as per the architectural drawings and the directions of engineer-in-charge . (Cost of aluminium snap beading shall be paid in basic item) :				
	With float glass panes of 5.50 mm thickness	sqm	10.00		
30	Providing and fixing double action hydraulic floor spring of approved brand and manufacture IS : 6315 marked, for doors including cost of cutting floors as required, embedding in floors and cover plates with brass pivot and single piece M.S. sheet outer box with slide plate etc. complete as per the direction of Engineer-in-charge.				
	With stainless steel cover plate	each	2.00		
31	Providing and fixing aluminium tubular handle bar 32 mm outer dia, 3.0 mm thick & 2100 mm long with SS screws etc .complete as per direction of Engineer-in-Charge.				
	Anodized (AC 15) aluminium tubular handle bar	each	2.00		
32	Providing and fixing 100mm brass locks (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.	each	10.00		
33	Providing and fixing aluminium tower bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete :				
	250x10 mm	each	2.00		
34	Providing and fixing aluminium handles ISI marked anodised (anodic coating not less than grade AC 10 as per IS : 1868) transparent or dyed to required colour or shade with necessary screws etc. complete :				
	75 mm	each	2.00		
			Total of A in Rs.		

Part B: Electrical Work

S.No.	Description	Unit	Qty	Rates (in Rs.)	Amount (in Rs.)
1	Wiring for light Point/fan point/exhaust fan point/call bell point with 1.5 Sq. mm FRLS PVC insulated copper conductor single core cable in surface/recessed Heavy Duty PVC conduit, with modular switch, modular plate, suitable size GI box and earthing the point with 1.5 sq.mm FRLS PVC insulated copper conductor single core cable etc as required. (Long Point up to 10 mtrs) (make BSR Group -1)				
1.1	(a) Group-1	Point	60		

S.N.	Description	Unit	Qty	Rates (in Rs.)	Amount (in Rs.)
2	Wiring for submain wiring/circuit wiring along with earth wire with the following sizes of FR PVC insulated flexible copper conductor, in surface / recessed conduits as required. (make BSR Group -1)				
2.1	2 x 1.5 Sq. mm + 1 x 1.5 Sq. mm earth wire.	Mtrs.	50		
2.2	2 x 2.5 Sq. mm + 1 x 1.5 Sq. mm earth wire.	Mtrs.	150		
2.3	2 x 4 Sq. mm + 1 x 2.5 Sq. mm earth wire.	Mtrs.	250		
2.4	2 x 6 Sq. mm + 1 x 4 Sq. mm earth wire.	Mtrs.	100		
2.5	4 x 10 Sq. mm.	Mtrs.	50		
3	Supply & fixing wherever Heavy Duty PVC conduits for surface/recessed mounted conduiting for submain wiring in electrical shaft inclusive of repair of chase to original finish and of following sizes : (make BSR Group -1)				
3.1	25 mm dia	Mtrs.	200		
3.2	32 mm dia	Mtrs.	40		
4	Supplying and fixing stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required. (make BSR Group -1)	Each	12		
5	Supplying and fixing of Suitable size of GI box with modular plate and cover in front on surface or in recess , including providing and fixing of 3 pin 5/6 amps. modular socket outlet and 5/6 amps. modular switch, connections, painting etc. as required. (For light plugs). (make BSR Group -1)	Each	24		
6	Supplying and fixing of Suitable size of GI box with modular plate and cover in front on surface or in recess , including providing and fixing of 6 pin 15/16 amps modular socket outlet and 15/16 amps. modular switch, connections, painting etc. as required. (For power plugs in data use). (make BSR Group -1)	Each	24		
7	Supply and Fixing 3 Pin, 5 amp ceiling rose on the existing junction box/ wooden block including connection etc as required. (make BSR Group -1)	Each	12		
8	Supply, installation, testing & commissioning of following of surface/recess mounting, Horizontal type Double Door distribution boards for power & light points, fabricated from sheet steel, with Bus bar for mounting of MCB's, 100 A Cu strip, 2 n.o neutral links, 2n.o earth bars etc. & complete in all respects : (make BSR Group -1)	Nos.	3		
	6 way TPN distribution board				

S.N.	Description	Unit	Qty	Rates (in Rs.)	Amount (in Rs.)
	40 A, 4P, MCB as incomer.				
	40 A, 4P, RCCB as incomer on each phase.				
	18 no. 6-32 A, SP, MCB as outgoing				
10	Supply & Drawing and testing of 4 pair, 100 ohm, 24 AWG UTP E Cat 6 cable as per latest ammendments of TIA EIA 568 B.2 Specifications in existing PVC conduits including making connections to information outlets and patch panels with necessary tools for punching, stripping, crimping and testing required. (make BSR Group -1)	Mtrs	150		
12	P & F metal clad industrial plug top & socket unit with pin and sleeve type contact on porcelain/ Bakelite base in sheet steel enclosure (with MCB) including making connections with lugs, testing etc. as required. (make BSR Group -1)				
	Single phase (Three pin) 20 A Legrand/Schneider/ABB Make	Each	12		
14	Supplying and laying of following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 kv grade as required. (make BSR Group -1)				
14.1	3.5core, 70 Sq.mm.	Meter	70		
14.2	4 core, 25 Sq.mm.	Meter	45		
14.3	4core,16 Sq.mm.	Meter	45		
14	Supplying of cable and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 kv grade as required.				
15.1	3.5core, 70 Sq.mm.	Each	2		
15.2	4core,25 Sq.mm.	Each	2		
17	Wiring, fixing, testing & commisssioning of Modular CAT-6 Data outlets (RJ-45) I/O with grid & cover plate in suitable size of 16 SWG GI box. (make BSR Group -1)	Nos.	12		
	Main Distribution Board				
	Supply, erection, testing and commissioning of LT panel fully compartmentalized (bolted type design) metal clad, floor mounted, both side extensible type switchboard made of 2 mm CRCA sheet suitable for 415 V, 3 phase 4 wire 50 Hz system, outdoor type with loking arrangement, consisting of 3.5 strips Aluminum busbars complete with following accessories.(make BSR Group -1)				
	Incoming :				
18	1 no. 250 A TPN MCCB (Isc=35KA) CTS, 250/5A,for protection Panel should be suitable for 1No. 3.5cx70 sqmm XLPE insulated "AL" conductor cable as incomer. 1 No. 250 A TPN ON LOAD Change over Switch 1 No. phase indication lamps with control fuses.	Set	2		

S.N.	Description	Unit	Qty	Rates (in Rs.)	Amount (in Rs.)
	3 Nos. phase indication lamps with control fuses.				
	Busbar :				
	250 A TPN Al busbar. Busbar shall be insulated with heat shrinkable sleeves and shall be color coded.				
	Outgoings :				
	8 Nos. 100 A TPN MCB(Isc=16KA)				
	All the O/G shall have with ON/OFF indication lamp				
19	Gel Earthing with copper Electrode of size 50mm x 2m by embodying 2.5 mtr. below the ground level with 20 mm dia. G.I. 'B' class watering Pipe including all accessories like nut, bolts, reducer, nipple ,wire meshed funnel, and C.C. finished chamber covered with hinged type with locking arrangement C.I. Cover, C.I. Frame of size 300mm x 300mm complete with filling of Ash gel compound (Dharkan or equivalent approved make), testing of earth resistance as required.	Each	4		
20	S & Laying following size earth wire/strip in horizontal or vertical run in ground/surface/recess including riveting, soldering, saddles, making connection etc. as required.				
	20mm x 3mm copper strip	Mtr.	40		

Total of B in Rs.

Total A+B in Rs.

I / We hereby agree to execute the work on the above mentioned rates and term condition, total amounting to Rs _____ for the entire work and on the enclosed terms and conditions of contract of the Institute.

Signature of the contractor with seal

Address _____

Mobile No _____

Opened by us on _____

Tender Stands total amounting to Rs _____ for the entire work

Estate Engineer