

MALAVIYA NATIONAL INSTITUTE OF TECHNOLOGY JAIPUR

TENDER DOCUMENT

VOLUME - II

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

NAME OF WORK:

Renovation of Basement for Centre of Excellence for Design

AT

MALAVIYA NATIONAL INSTITUTE OF TECHNOLOGY, JAIPUR

MALAVIYA NATIONAL INSTITUTE OF TECHNOLOGY JAIPUR

ESTATE SECTION

G-Schedule

Name of the work: Renovation of Basement for Centre of Excellence for Design

Part A: Civil

S. NO.	Description	Unit	Qty	Rates (in Rs.)	Amount (in Rs.)
1	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 sum on plan) including disposal of excavated earth, lead upto 50m and lift upto 1.5m, disposed earth to be levelled and neatly dressed.				
	All kinds of soil	cum	15.00		
2	Centring and shuttering including strutting, propping etc. and removal of form for :				
	Suspended floors, roofs, landings, balconies and access platform.	sqm	18.00		
3	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete.				
	Thermo-Mechanically Treated bars.	kg	252.00		
4	Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete work including pumping of concrete to site of laying but excluding the cost of centring, shuttering, finishing and reinforcement. including Admixtures in recommended proportions as per IS 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. M-25 grade reinforced cement concrete by using 410kg. of cement per cum of concrete. All work upto floor V level.	cum	3.00		
5	Brick work with F.P.S. bricks of class designation 75 in superstructure above plinth level upto floor V level in all shapes and sizes in :				
	Cement mortar 1:6 (1 cement : 6 coarse sand)	cum	1.00		
6	Providing gola 75x75 mm in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 10mm and down gauge) including finishing with cement mortar 1:3 (1 cement : 3 fine sand) as per standard design :				
	In 75x75mm deep chase	metre	3.00		

S. NO.	Description	Unit	Qty	Rates (in Rs.)	Amount (in Rs.)
7	Providing and fixing aluminium sliding door 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 nuts and screws etc. complete :				
	300x16 mm	each	2.00		
8	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		
9	Stone tile (polished) work for wall lining over 12mm thick bed of cement mortar 1:3 (1 cement : 3 coarse sand) and cement slurry @ 3.3 kg/sum including pointing in white cement complete.				
	8mm thick. Granite of any colour and shade.	sqm	600.00		
10	Providing and fixing aluminium round shape handle of outer dia 100mm with SS screws etc. Complete as per direction of Engineer-in-charge				
	Anodized (AC 15) aluminium	each	4.00		
11	Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50 metres lead.	sqm	600.00		
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	30.00		
13	Chequerred precast cement concrete tiles 22 mm thick in footpath & courtyard jointed with neat cement slurry mixed with pigment to match the shade of tiles including rubbing and cleaning etc. complete on 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand).				
	Dark shade using ordinary cement.	sqm	20.00		
14	Providing and laying vitrified floor tiles in different sizes (thickness to be specified by the manufacturer) with water absorption's less than 0.08% and conforming to IS : 15622 of approved make in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) including grouting the joints with white cement and matching pigments etc., complete.				

S. NO.	Description	Unit	Qty	Rates (in Rs.)	Amount (in Rs.)
	Size of Tile 60x60 cm	sqm	520.00		
15	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	6.00		
	FINISHING				
16	12 mm cement plaster of mix : 1:4 (1 cement : 4 fine sand)	sqm	25.00		
17	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	3.00		
	ALUMINIUM WORK				
18	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 fixed portion.				
	Anodised aluminium (anodised transparent or dyed to required shade according to IS: 1868, Minimum anodic coating of grade AC 15)	kg	250.00		
19	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) :				

S. NO.	Description	Unit	Qty	Rates (in Rs.)	Amount (in Rs.)
	With float glass panes of 5.50 mm thickness	sqm	57.00		
20	Providing & Fixing Stain less steel Handicaped railing of required pattern & design etc. All complete as per dimention of Engineer-in-charge.	Kg	100.00		
21	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	5.00		
22	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :				
	1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size)	cum	2.00		
	BRICK WORK				
23	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	5.00		
	REPAIRS TO BUILDINGS				
24	Repairs to plaster of thickness 12mm to 20mm in patches of area 2.5 sq. metres and under including cutting the patch in proper shape, raking out joints and preparing and plastering the surface of the walls complete including disposal of rubbish to the dumping ground within 50metres lead :				
	With cement mortar 1:4 (1 cement : 4 coarse sand).	sqm	10.00		
25	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.				
	In cement mortar	cum	2.00		
26	Supplying and filling in plinth with Jamuna sand / Banas Sand under floors including, watering, ramming consolidating and dressing complete.	cum	3.00		
	CONCRETE WORK				
27	Providing and laying in position cement concrete of specified grade excluding the cost of centring and shuttering - All work upto plinth level :				
	1:2:4 (1 Cement : 2 coarse sand : 4 graded stone aggregate 40 mm nominal size).	cum	1.00		

S. NO.	Description	Unit	Qty	Rates (in Rs.)	Amount (in Rs.)
28	Providing and fixing 12mm thick Pre-laminated particle board flat pressed three layer or graded wood particle board conforming to IS: 12823 Grade 1 Type II, in panelling fixed in aluminium doors, windows shutters and partition frames with C.P. brass / stainless steel screws etc. complete as per architectural drawings and directions of engineer-in-charge.				
	Pre-laminated particle board with decorative lamination on both sides.	sqm	2.00		
	ALUMINIUM WORK				
29	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	50.00		
30	Providing and fixing 100mm brass locks (best make of approved quality) for aluminium doors including necessary cutting and making good etc. complete.	each	1.00		
31	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		
32	Providing and fixing in position collapsible steel shutters with vertical channels 20x10x2mm and braced with flat iron diagonals 20x5mm size with top and bottom rail of T-iron 40x40x6mm with 40mm dia, steel pulleys complete with bolts, nuts, locking arrangement, stoppers, handles, including applying a priming coat of approved steel primer	sqm	5.00		
			Total of Part A in Rs.		

S. NO.	Description	Unit	Qty	Rates (in Rs.)	Amount (in Rs.)
--------	-------------	------	-----	----------------	-----------------

Part B: Electrical

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 medium 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	20		
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.	150		
2.2	2 x 2.5 sq. mm. + 1x1.5 Sq mm earth wire.	Mtrs.	300		
2.2	2 x 4 Sq. mm + 1 x 2.5 Sq. mm earth wire.	Mtrs.	650		
2.3	2 x 6 Sq. mm + 1 x 4 Sq. mm earth wire.	Mtrs.	450		
3	Supply & fixing wherever medium 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.	460		
4	P & F following size hot dip galvanized M.S. box with earthing terminal in recess/ surface suitable for modular accessories as required. (Make BSR Group -1)				
4.1	3 Module	Each	20		
4.2	10/ 12 Module	Each	50		
5	P & F following size mounting grid plates with cover plates (Make BSR Group -1)				
5.1	3 Module	Each	20		
5.2	10/ 12 Module	Each	50		

S. NO.	Description	Unit	Qty	Rates (in Rs.)	Amount (in Rs.)
6	P & F following modular accessories made out of unbreakable and fire retardant poly carbonate with silver contacts including making connections testing etc. as required (Make BSR Group -1)				
6.1	6 A one way switch	Each	10		
6.2	16 A one way switch	Each	200		
6.3	6 A 3 pin shuttered socket	Each	10		
6.4	16 A 6 pin shuttered socket	Each	200		
7	P/Laying P.V.C. insulated & P.V.C. sheathed cable of 1.1 KV grade with aluminium conductor of IS:1554 P-I of Group2 of approved make in ground as per IS:1255 including excavation of 30cmx75cm size trench, 25 cm thick under layer of sand, IInd class bricks covering, refilling earth, compaction of earth, making necessary connection with lugs, testing etc. as required of size. (Make BSR Group -1)				
7.1	16.0 Sq.mm 4 core Armoured	Mtr.	50		
7.2	35.0 Sq.mm 3.5 core Armoured	Mtr.	100		
7.3	70.0 Sq.mm 3.5 core Armoured	Mtr.	150		
7.4	95.0 Sq.mm 3.5 core Armoured	Mtr.	250		
8	P&F Recessed/ Surface mounting heavy duty horizontal type sheet steel Distribution board phophatised/ powder painted complete with 100 A copper bus bar, shorting link , neutral link, earth link and din bar, conforming to IS13032 & IS8623 including making internal DB terminations with copper lugs , testing etc. as required. (Make BSR Group -1)				
8.1	Double Door (Three Phase) 6 Way	Each	8		
9	P&F 240/415 V isolator conforming to IS:13947-III/ IEC 60947-3 on existing board / sheet including making connections with lugs , testing etc. as required. (Make BSR Group -1)				
9.1	Four pole Isolator 100 A rating	Each	8		

S. NO.	Description	Unit	Qty	Rates (in Rs.)	Amount (in Rs.)
10	P&F 240/415 V AC MCB with positive isolation of breaking capacity not less than 10 KA (B/ C/ D tripping characteristic) ISI marked IS 8828(1996)]/ conforming to IEC 60898 in existing board/sheets including making connections with lugs, testing etc. as required.(Make Legrand(Lexic), Merlin Gerin(Multi 9), Hager, Siemens, Moeller(HPL), GE(G2000))				
10.1	Single pole MCB 6 A to 32 A rating	Each	108		
11	P&F of RCBO with overload, short-circuit and earth leakage protection ISI marked (IS12640)/ conforming to IEC 61009/1 complete in all respect including making connections with lugs, testing etc. as required. (Make Legrand, schneider, ABB)				
11.1	Two pole 30 mA sensitivity 25 A rating	Each	15		
12	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	6		
13	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.				
13.1	8 SWG G.I. Wire	Mtr.	80		
14	SITC of wall/ free standing floor mounted dust and vermin proof compartmentalised cubical panel made out of CRCA sheet , required hardware ,duly painted by either two coats of zinc/ red oxide primer followed by two coats of synthetic enamel paint or powder coating in grey or required shade after rinsing . The panel having PU/ Neoprene rubber gasket of not less than 3mm thickness , separate detachable gland plate M.S. base channel ,hinged door with locking arrangement for equipment/switchgear . Thickness of sheet shall not be less than 1.6 mm up to 600 mm length / width of any compartment and be of 2.0 mm above 600 mm. Load bearing structure shall be of 2.0 mm thick sheet supported by base M.S. channel if required . Side walls and cable alley compartments having bolted type doors with detachable extension type structure. (only outer area on all sides shall be measured)				
14.1	Powder coated / epoxy / PU painted with phosphatisation	SQ.Mtr.	24		

S. NO.	Description	Unit	Qty	Rates (in Rs.)	Amount (in Rs.)
15	Supplying and fixing of Aluminium / Copper bus bar by means of SMC / DMC type insulator, high tensile nuts and bolts spring washers in existing panel including bending , cutting in required shape and size and colour coding with heat shrinkable PVC sleeves.				
15.1	Electrolytic grade aluminium bus bar	Kg	15		
16	SF of (0-500) V range Volt meter on existing panel , making connection by PVC insulated copper conductor with PVC sleeves / channel etc. as required. (Make BSR Group -1)				
16.1	Digital type	Each	3		
17	SF of CT operated direct reading type Ampere meter on existing panel , making connection by PVC insulated copper conductor with PVC sleeves / channel etc. as required. (Make BSR Group -1)				
17.1	Digital type	Each	3		
18	SF of Current Transformer , with all necessary support in existing panel including connection etc. as required . (Make BSR Group -1)				
18.1	from 200 / 5 to 400/5 Ratio , 10 VA , class 1 accuracy	Each	3		
19	SF of selector switch for voltmeter (4 position) including making connection etc. as required . (Make BSR Group -1)	Each	3		
20	SF of CT linked selector switch of 10 A for Ampere meter (4 position) including making connection etc. as required . (Make BSR Group -1)	Each	3		
21	SF of 240/220 V, LED (22.5 mm dia) Pilot lamp with integral circuit, terminal block, including connection etc. as required. (Make BSR Group -1)				
21.1	Red/yellow/Green colour	Each	9		
22	SITC of quick make and quick break 3 POLE current limiting MCCB having following current rating, short circuit breaking capacity at 440/415 V, 50 Hz; O/L & S/C settings and conforming to IS 13947-2 / IEC 60947-2 with front face and centralised adjustable, line load interchangeability, having positive isolation capability, provision for UVR , shunt trip , earth fault trip, push (test) to trip, including making connections with lugs / spreaders etc. as required. (Make Legrand, Schnieder,ABB)				
22.1	up to 100 Amp , 16/25 kA, adjustable O/L & fixed S/C setting	Each	12		

S. N0.	Description	Unit	Qty	Rates (in Rs.)	Amount (in Rs.)
22.2	250 Amp , 35/50 kA, adjustable O/L & adjustable S/C setting	Each	2		
22.3	400 Amp , 35/50 kA, adjustable O/L & adjustable S/C setting	Each	2		
23	P&F metal clad industrial plug top & socket unit with pin and sleeve type contact on porcelain/ bakelite base in sheet steel enclosure (without MCB) including making connections with lugs, testing etc.as required. (Make Legrand, Schnieder,ABB)				
23.1	Single phase (Three pin) 20 A	Each	25		
24	P & F extra down rod of 12mm dia, B class GI pipe including cutting, threading, drilling, fixing quarter pin etc as reqd.	Mtr.	32		

Total of Part 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

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