

## **BILL OF QUANTITIES**

### **Preamble**

1. The bill of Quantities shall be read in conjunction with the Instructions to Bidder, Conditions of Contract, Technical Specifications and Drawings.
2. The quantities given in the Bill of Quantities are estimated and provisional, and are given to provide a common basis for bidding. The basis of payment will be the actual quantities of work ordered and carried out, as measured by the Contractor and verified by the Engineer and valued at the rates and prices tendered in the priced Bill of Quantities, where applicable, and otherwise at such rates and prices as the Engineer may fix within the terms of the Contract.
3. The rates and prices tendered in the priced Bill of Quantities shall, except in so far as it is otherwise provided under the Contract, include all constructional plant, layout, supervision, materials, erection, maintenance, insurance, profit, taxes and duties, together with all general risks, liabilities and obligations set out or implied in the Contract.
4. The rates and prices shall be quoted entirely in Indian Currency.
5. A rate or prices shall be entered against each item in the Bill Quantities, whether quantities are stated or not. The cost of Items against which Contractor has failed to enter a rate or price shall be deemed to be covered by other rates and prices entered in the Bill of Quantities (in case of Item rate contract).
6. The whole cost of complying with the provisions of the Contract shall be included in the items provided in the priced Bill of Quantities, and where no Items are provided the cost shall be deemed to be distributed among the rates and prices entered for the related items of Work.
7. General direction and descriptions of work and materials are not necessarily repeated or summarized in the Bill of Quantities. References to the relevant sections of the contract documentation shall be made before entering rates or prices against each item in the Bill of Quantities.
8. The method of completed work of payment shall be in accordance with the specification for Road and Bridge works. For building works specifications for building are to be followed.
9. Errors will be corrected by the Employer for any arithmetic errors pursuant to **Clause 29** of the Instructions to Bidder.
10. Rock is defined as all materials which, in the opinion of the Engineer, required blasting, or the use of metal wedges and sledgehammers, or the use of compressed air drilling for its removal, and which cannot be extracted by ripping with a tractor of at least 150 kw with a single rear mounted heavy duty ripper.

## BILL OF QUANTITIES

Name of Work: Providing & Erecting Ceiling fan At new Various Offices under IMD-1,Vadodara.					
Item s No.	Quantities estimated	Item of Work	Estimated Rates(In figures)	Unit	Total amount according to estimated quantities
1	2	3	4	5	6
1a	120	Providing & Erecting perforated G.I. Cable Tray size as below with all necessary accesS.O.R.ies for fitting like coupler S.S. Nut bolt.Cable tray with cover fabricated from G.I.M.S.sheet having thicknes 2 mm. (a) Cable tray size 200 x 100 x 2 mm	1133.83	Mtr.	136059.60
1b	70	(b) Cable tray size 300 x 100 x 2 mm	1606.99	Mtr.	112489.30
2	12	Supplying and erecting approved make Octagonal pole made from HR sheet steel. The pole should be made as per IS. and shall be coated with hot dip galvanizing as per IS 2629/2633/4759, suitable suspend local wind speed with integral Junction box consist of terminal plate of min 6mm Hylam sheet, standard profile 35mmX7.5mm Din-Rail for MCB Mounting, stud type terminal and arrangement for cable termination to be erected With Suitable foundation (Included) as per details given by manufacturer considering site requirement.(B) 4 Mtr. Long 70 mm Top X 130 mm bottom dia, 3 mm thickness with 200mmX200mmX12mm base plate, 4-M16 Bolts and 450mm long with necessary G.I. J Bolts .Approx weight 37 kg[Approved Make- Utkarsh, Bajaj, RR ISPAT, FAB, Crompton, Tranrail]	5556.01	No.	66672.12
3a	2	Supplying and erecting Street light pole bracket comprising main B Class MS pipe of 4.2 cm/require outside dia. complete with suitable B Class M.S. sleeve tubing of approx. 45cms.length and suitable for 76.5mm/80mm/require size of pole top having nuts and bolts for fixing the brackets and having spread of 0.5 mtr. Length with 110 deg.with vertical plane and suitable welded stiffener reducer and nipple with check nut complete painted with one coat.of Red oxide / PU base primer and two coats of Aluminium / PU paint. paint with following nos ofarms. [A] Single Arm bracket 0.5 Mtr [Approved Make - Sintex, National, EPP, Hensel, Green	450.46	No	900.92

		composites]			
<b>3b</b>	10	[B] Double Arm Bracket 0.5 Mtr [Approved Make - Sintex, National, EPP, Hensel, Green composites]	569.64	No	5696.40
<b>4</b>	100	Providing , erecting , fabricating the M.S. structure as per requirement on site incorporating proper size of M.S. angles,square,round, flats, bars, channels, sections complete with cutting, welding, grinding & finishing duly painted with one coat of red oxide with erection on site as per direction of engineer in charge with necessary grouting, cementing, plastering & finishing complete.	77.77	Kg	7777.00
<b>5a</b>	20	Supplying and erecting LED street light / Flood light fittings with High power White LEDs wattage of 3 Watt and above assembled on single MCPCB, efficiency more than 130 lm/w and corrosion free High pressure die cast aluminum housing with smooth finish powder coated and heat sink extruded aluminium with diffuser and Polycarbonate optics/ lenses, with toughened glass with company mark/name engraved or embossed 160 to 270 V,Power Factor more than 0.95, THD < 10 %, CCT 3000 K to 5700K,Uniformity ratio >0.45, Luminaire efficacy> 100 lumens/watt . LED driver efficiency > 85 %.( fittings required LM-79 & LM-80 certificates)(NOTE: Below description have shown ranges of Wattage capacity of LED fittings.The Engineer incharge may select any wattage capacity between the ranges shown.) (A) Street Light (IP-65), Surge protection - 4KV integral and ,Light must have 440VAC line supply with over-voltage protection. (a) 48 watts [Approved Make - Philips, Wipro, Crompton, Havells, Surya, Bajaj, Orient]	3345.12	No	66902.40
<b>5b</b>	60	(a) 60 watts [Approved Make - Philips, Wipro, Crompton, Havells, Surya, Bajaj, Orient]	4997.48	No	299848.80
<b>5c</b>	10	(B) Flood Light (IP-65), Surge protection - 4KV integral and ,Light must have 440VAC line supply with over-voltage protection. (a) 90 watts [Approved Make - Philips, Wipro, Crompton, Havells, Surya, Bajaj, Orient]	6088.28	No	60882.80

6	3	Supplying approved make Junction Box outdoor type in two compartments made from 1.6 mm thick Stainless steel AISI 304 confirm to IS 1570 part-V Sheet .The power compartments size 400 mm and Control compartment size 200 mm Junction box sizes 600 x 600x 300 mm with 300 mm leg made from 35x35x3 mm angle complete fabricated. The junction box provided with 3 Nos 32 A MCB FP (Cat.III C&S, L&T, Siemens) & 1 nos 63A 4 pole MCB (Cat.III C&S, L&T, Siemens) complete with internal wiring 4 sq.mm copper wire & suitable lugs. All necessary AccesS.O.R.ies including the item. The box shall be provided with front door hinged at one end. And locking at other end, rubber packing should be provided on closing door. And having cover inside for M.C.B.& Danger notice board on door.[Approved Make - Sintex, National, EPP, Hensel, Green composites]	21478.41	No	64435.23
7a	200	Supplying and erecting Flexible PVC insulated multi strand multi core 1.1 kv grade ISI marked copper wires of following size to be erected as directed. (a) 1.50 Sq.mm 3 core round PVC sheathed [Approved make - Polycab, Havells, RRRKabel, Finolex, Anchor]	46.46	Mtr.	9292.00
7b	15	(b) 4.00 Sq.mm 3 core round PVC sheathed [Approved make - Polycab, Havells, RRRKabel, Finolex, Anchor]	127.26	Mtr.	1908.90
8	3	Providing approved make junction box outdoor type made from 1.6 mm thick Stainless steel AISI 304. Confirm to IS 1570 part-V Sheet .The box size 400 mm x300mm x250mm deep . The junction box provided with 1 nos 63A 4 pole MCB (Cat.III C&S,L&T,siemens, havells make only),cable termination kit suitable for 70sqmm to 120sqmm cable, 63Amp industrial plug and socket and 700mm stand height 35x35x3mm thick angle, complete with internal wiring 10 sq.mm copper wire & suitable lugs, necessary Accessories The box shall be provided with front hinged door And locking arrangement, rubber packing,bakelite sheet for erection of above items in junction box and Danger notice board on door. [Approved Make - Sintex, National, EPP, Hensel, Green composites]	17170.00	No	51510.00

9	300	Providing and erecting XLPE (IS:7098)(I)-88 ISI armoured cable multistrand / Solid Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (a) 4 core 10 Sq. mm [Approved Make - Avocab, Havells, Finolex, RRRKabel, L&T, Polycab]	140.39	No.	42117.00
10	20	Supplying & erecting approved make SMC press moulded composite FRP. loop-in, loop-out approx. 2mm thick box complete with Bakelite connector strip 5way(3P+N+E), DIN rail for mounting mob & hinged doors as per requirement having locking arrangements with mounting clamp with nuts, bolts & washers suitable for erection on pole with cable clamps& earth bolt of following size of box. (a) 250mm x 200mm x 100mm [deep] [Approved Make - Sintex, National, EPP, Hensel, Green composites]	515.10	No.	10302.00
11	40	providing and erecting Miniature circuit breaker single pole 6A to 25A suitable to operate on 240 V A.C. system and having breaking capacity 10 KA to be erected in existing box. confirming to IS 8828/1996 with ISI Mark [Approved Make - Schneider, L&T, ABB, Siemens, Havells, MDS, C&S]	112.11	No.	4484.40
12	10	Labour charges for forward & reverse motorstarter panel servicing & repairing including supply of wire, ferrul,lugs & other misc.l item,complete repairing & put into operation.	593.26	No	5932.60
13	30	Supplying and erecting approved make suitable panel indicator LED type lamp, lens cover, complete erected with necessary connections.	43.43	No.	1302.90
14	30	Providing & erecting Push button with elements. (BCH, L&T, Siemens, Tecknik or equivalent make approved by Engineer in charge)	186.98	No.	5609.40
15	5	Supplying and erecting approved make Analog type voltmeter moving iron with square/ Round Dial, flush/pedestal mounting pattern for A.C.Voltage 0 to 500 Volt range, erected on panel board with all connection, wiring etc. [Approved Make- Gelco, Meco, Schneider, Siemens, Techno]	360.57	No	1802.85

16	5	Supplying and erecting approved make Analog type moving iron Ammeter direct reading type 0-30A AC current, 500 V square /. Round dial, flush or projection type complete erected with connection and wiring. [Approved Make-Gelco, Mecco, Schneider, Siemens, Techno]	317.14	No	1585.70
17	40	Supply and installation panel d.c lock in existing panel, junction box etc.	60.60	No	2424.00
18	1	Labour charge for dismantling of existing cable tray and old cable, junction box, pole box etc at spillway and deposit at stor as per instruction of E.I.C. as directed, including tools tackles, electrician, helper. (1 Electrician X 3 dayX Rs.507.50)+(3 Heplper X 3 dayX Rs.486.50)=1522.50+4378.50=5901.00 (As per minimum wages of labour commission latest revision)	5960.01	No	5960.01
19	2	Supplying & erecting earth pit of minimum bore dia.150mm size approved make Earthing Electrode consisting Pipe-in-Pipe Technology as per IS 3043-1987 made of corrosion free hot dipped G.I.Pipes having Outer pipe dia of 50mm having 80-200 Micron galvanising, Inner pipe dia of 25 mm having 200-250 Micron galvanising, connection terminal dia of 12mm with constant ohmic value surrounded by highly conductive compound with high charge dissipation suitable for following type of applications with chamber and heavy duty cover. (A)(approved make OEM has to submit test certificate including value of earth resistance of installation duly stamped and signed by agency and officer Incharge has to ensure the value of earthing resistane mentioned in test Certificate) & having back filling compound of (B) Inner chemical (CCM Compound)- Resistivity:- 0.2 ohm / meter testing as per IEC 62561-2017, Voltage drop:- < 1 volt at no load & dry form, Sulphar content:- <2%(C) Back fill Compound :- Earthing compound should be capable to retain moisture for long time Necessary test report must be submitted by Agency. (a) For Electrical Installation up to 440V in normal soilLength of pipe - 1 MtrBack filling compound - 1 Nos Bag of 15 Kg.[Approved make- Approved by Engineer-in-charge]	4591.46	No.	9182.92
20	10	Providing and erecting Annealed bare Copper wire 8 to 16 SWG.	794.87	Kg.	7948.70

<b>21</b>	100	Providing and erecting required size HOT deep Galvanised iron strip for earthing of H.T. , OCB/ ACB/ Transformer LT panel board, Motors etc. using proper clamp.	77.77	Kg.	7777.00
<b>22</b>	15	Providing and erecting HOT deep Galvanised iron strip wire 8 to 16 SWG.	77.77	Kg.	1166.55
<b>23a</b>	10	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (a) 4 core 10 Sq. mm	38.38	No.	383.80
<b>23b</b>	40	(b) 2 to 4 core 16 Sq. mm	47.47	No.	1898.80
<b>23c</b>	6	(c ) 2 to 4 core 25 Sq. mm	51.51	No.	309.06
<b>24</b>	8	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (a) 3 & 1/2 core 35/50 Sq. mm	75.75	No.	606.00
<b>25a</b>	100	Solder less crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (a) 10 sq. mm.	13.13	No.	1313.00
<b>25b</b>	80	(b) 16/25 Sq. mm	15.15	No.	1212.00
<b>25c</b>	32	(c ) 35/50 Sq. mm	20.20	No.	646.40
<b>26</b>	1	Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for (A) three phase incoming and single phase horizontal type outgoing Per phase isolation type (PPI) (a) single door (i) 6 way	1911.93	No.	1911.93
<b>27</b>	9	Providing & erecting 240 V MCB double pole switch for motor & inductive load (C Curve) having 10 KA breaking capacity & confirms to IS : 8828 in existing box having following capacity (a) 32 Amp [Approved Make - Schneider, L&T, ABB, Siemens, Havells, MDS, C&S]	299.97	No.	2699.73

28a	3	Providing & erecting 415 V MCB Four Pole for Motor & Inductive Load (C Curve) having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (a) 32 Amp [Approved Make - Schneider, L&T, ABB, Siemens, Havells, MDS, C&S]	595.90	No.	1787.70
28b	1	(b) 63 Amp[Approved Make - Schneider, L&T, ABB, Siemens, Havells, MDS, C&S]	737.30	No.	737.30
29	1	Sheets steel powder coated enclosure suitable for incorporating One/Two nos. MCB.	176.75	No.	176.75
30	6	Supplying rubber matting of following thickness as per IS:15652/IEC 61111 (a) 12 mm	3081.51	Sq. mtr.	18489.06
31	900	Dismantling the existing cables of all types & sizes	6.06	Mtr.	5454.00
32	10	Dismantling the existing pole up to 6 m height with brackets, clamps, insulators, stay from the cement concrete foundation and making the site clear by refilling the pits with excavated materials and bringing it to the ground level.	184.83	No.	1848.30
33	20	Dismantling the existing any type of street light fittings on pole up to 6 mt height with bracket and making the site as original complete.	13.13	No.	262.60
		<b>PART-B</b>			
34	300	4 core 16 sq mm armoured cable multistrand aluminium cable- considering scrap value of 6.5% of capital cost= 6.5% of 152	9.98	Mtr	-2993.64
35	350	3 1/2 core 35 sq mm (16 sq mm 1/2 core armoured cable multistrand aluminium cable-considering scrap value of 6.5% of capital cost= 6.5% of 218	14.31	Mtr	-5009.10
36	30	LED Streetlight (36 to 48 watts) considering scrap value of 4% of capital cost (cost of material only)= 4% of 3184	128.63	No	-3859.01
37	300	Old pole 3 mtr height 65/80 mm dia GI pipe qty 10 no., old GI cable try, cosidering scrap value.	36.36	Kg	-10908.00
			<b>Total ₹</b>		<b>1008938.19</b>
			<b>Say ₹</b>		<b>1008938.00</b>
		<b>* All rates are exclusive of GST</b>			



I/We am/are willing to carry out the work at.....% above/below percent(Should be written in figures and words) of the estimated rate mentioned above. Amount of my /our Quotation works out as under.

Estimated amount put to Quotation

Estimated amount put to Quotation

Deduct.....% below

Add.....% Above

Net .....

Net.....

In words .....

In words.....

1. The Contractor shall exhibit a board with detailed specification and details of work as directed by the Engineer-In-Charge and as per GR No. MIS/102010/17(2)/k-1 of dtd. 29/01/2011 for which no extra payment shall be made.
2. The labour cess will be deducted as per prevailing rules i.e. 1% of the work done.
3. GST and Income tax TDS will be deducted at a source while making payments of bills.
4. Rates quoted include clearance of site (prior commencement of work and at its close) in all respects and hold good for work under all conditions, site, moisture, weather etc.
5. The quoted rates should be inclusive of cost of minor rectification work which may have to be done for correcting the distortion caused during transportation of the gate components.