

**INTERNAL ELECTRICAL INSTALLATION WORKS OF  
COMPUTER SCIENCE EXTENSION BUILDING AT NIT ROURKELA**

DSR 2012 S.I.No.	S. No.	DESCRIPTION	QTY	UNIT	RATE	AMOUNT IN RS.	
						D.S.R. ITEM	N.S. ITEM
		<b>POINT WIRING</b>					
		<b>(Copper Wiring in PVC conduits)</b>					
1.10.3	1	Wiring for light points/ fan points/exhaust fan point/call bell point with 1.5 sq.mm. FR PVC insulated, copper conductor single core cable in surface/recessed medium class PVC conduit with modular switch, modular plate, company made GI boxes and earthing the point with 1.5 sq mm. FR PVC insulated copper conductor single core cable etc. as required (Group C) No twisting & use of insulation tape is permissible in wiring.					
1.10.3	(a)	light points	344	Pt	664.00	228416.00	
1.10.3	(b)	Fan point	168	Pt	664.00	111552.00	
1.10.3	(c)	Ex Fan point	13	Pt	664.00	8632.00	
1.12	2	Wiring for light/power plug with 2 x 4 sq.mm. FR PVC insulated, copper conductor single core cable in surface/recessed medium class PVC conduit along with 1 no. 4 sqmm FR PVC insulated copper conductor single core cable etc. as required (for 6A Plug / 16A Power plugs)	2940	mtr	162.00	476280.00	
1.25	3	Supply and fixing Stepped type electronic fan regulator on the existing modular plate switch box including connection but excluding modular plate etc. as required.	168	nos	322.00	54096.00	
1.27	4	Supply and fixing of following size /modules, G I boxes alongwith modular base & cover plate for modular switches in recess etc as required. blanking plate on the existing modular plate switch box including connection but excluding modular plate etc. as required.					
	(a)	1 or 2 Module ( 75mm x 75mm ) for Fan Regulator	168	nos	142.00	23856.00	
	5	Supply and fixing following items for installation of Ceiling fan complete etc as required.					
Mkt rate	(a)	Fan hook made out of 12mm plain round steel & 5" dia G I boxes alongwith round bakelite cover plate complete as required. ( for GF+1F+2F)	126	nos	80.00		10080.00
Mkt rate	(b)	Fan hook made out of 12mm plain round steel complete as required. ( for 3F)	42	nos	40.00		1680.00

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1.26	6	Supply and fixing of modular blanking plate on the existing modular plate switch box including connection but excluding modular plate etc. as required.	10	nos	22.00	220.00	
1.31	7	Supply and fixing company made GI boxes with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch, connection, painting etc. as required. (for 6A Plug on Board )	30	nos	288.00	8640.00	
1.27	8	Supply and fixing company made GI boxes with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch, connection, painting etc. as required. (for 2nos 6A Plug with Switch)					
1.27.4	(a)	6 Module ( 200mmx75mm)	568	nos	221.00	125528.00	
1.24.4	(b)	3 pin 5/6 amp socket outlet	1136	nos	96.00	109056.00	
1.24.1	(c)	5/6 amp Switch	1136	nos	75.00	85200.00	
1.27	9	Supply and fixing company made GI boxes with modular plate and cover in front on surface or in recess, including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps modular switch, connection, painting etc. as required.( In Faculty Room) (for 3nos 6A Plug with 2nos Switch)					
1.27.4	(a)	8 Module ( 125mmx125mm)	51	nos	221.00	11271.00	
1.24.4	(b)	3 pin 5/6 amp socket outlet	153	nos	96.00	14688.00	
1.24.1	(c)	5/6 amp Switch	102	nos	75.00	7650.00	
1.32	10	Supply and fixing company made GI boxes with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 15/16 & 5/6 amps modular socket outlet and 15/16 amps modular switch, connection, painting etc. as required. (for 16A Power plugs )	154	nos	366.00	56364.00	
	11	Wiring for circuit / submain wiring alongwith earth wire with the following sizes of FR PVC insulated, copper conductor single core cables in surface/recessed medium class PVC conduit complete as required. <b>No twisting &amp; use of insulation tape is permissible in wiring.</b>					
1.14.1	(a)	2 x 1.5 sq.mm. + 1 x 1.5 sq.mm. Earth wire	50	mtr	107.00	5350.00	
1.14.2	(b)	2 x 2.5 sq.mm. + 1 x 2.5 sq.mm. Earth wire	3000	mtr	131.00	393000.00	
1.14.3	(c)	2 x 4 sq.mm. + 1 x 4 sq.mm. Earth wire	400	mtr	162.00	64800.00	
1.14.4	(d)	2 x 6 sq.mm. + 1 x 6 sq.mm. Earth wire	120	mtr	206.00	24720.00	
1.14.5	(e)	2 x 10 sq.mm. + 1 x 10 sq.mm. Earth wire	50	mtr	310.00	15500.00	

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						D.S.R. ITEM	N.S. ITEM
1.14.9	(f)	4 x 6 sq.mm. + 2 x 6 sq.mm. Earth wire	1204	mtr	358.00	431032.00	
1.14.11	(g)	4 x 10 sq.mm. + 2 x 10 sq.mm. Earth wire	200	mtr	562.00	112400.00	
1106 +1106 +1.21.5	(h)	3 x 16 sq.mm ( Phase ). + 1 x 25 sq.mm. ( Neutral ) + 2 x 16 sq.mm. Earth wire	60	mtr	714.00	42840.00	
1104 +1105 +1.21.4	(i)	3 x 6 sq.mm ( Phase ). + 1 x 10 sq.mm. ( Neutral ) + 2 x 6sq.mm. Earth wire	120	mtr	348.00	41760.00	
1105 +1106 +1.21.5	(j)	3 x 10 sq.mm ( Phase ). + 1 x 16 sq.mm. ( Neutral ) + 2 x 10 sq.mm. Earth wire	180	mtr	540.00	97200.00	
<b>TOTAL SUB HEAD (I)</b>						<b>2550051.00</b>	<b>11760.00</b>
<b>SUB HEAD (II):- ERECTION OF FIXTURES AND FANS</b>							
1.41	12	Installation, testing and commissioning of prewired, flourescent fittings, of all types complete with all accessories and tubes etc. directly in ceiling/wall, including connections with 3 core 1.0 sq.mm FR PVC insulated, copper conductor, flexible cable etc. as required.	328	nos	69.50	22796.00	
1.44	13	Installation, testing and commissioning of ceiling fan including wiring the down rod of standard length (upto 30cm) with 1.5 sq.mm. FR PVC insulated, copper conductor, single core cable etc, earthing etc. as required.	168	nos	73.50	12348.00	
1.49	14	Numbering of Ceiling Fan / exhaust fan / flurescent fittings as required.	500	nos	19.50	9750.00	
1.50.1	15	Installation of exhaust fan upto 450 mm sweep in the existing opening, including making the hole to suit the size of the above fan, with making good the damage, connections, testing, commission-ing etc, as required.	12	nos	163.00	1956.00	
<b>TOTAL SUB HEAD (II)</b>						<b>46850.00</b>	<b>0.00</b>
<b>SUB HEAD (III):- FITTINGS &amp; FIXTURES</b>							
mkt rate	16	<b>Supply &amp; delivery of Surface/Wall Mounted LED batten with extruded aluminium housing &amp; robust construction with 1300 system lumen ( Normal) similar to Philips Catalogue Type - BN150W LED 13S-6500PSE OD GR ( ASTRA ) or equivalent complete etc as required. ( for Toilet &amp; Stairs )</b>	26	nos	2770.00		72020.00

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						D.S.R. ITEM	N.S. ITEM
mkt rate	17	<b>Supply &amp; delivery of recessed LED square</b> Luminaire with low glare , high efficiency recessed mounted LED light with 850 system lumen ( Normal) similar to Philips Catalogue Type - BBS 175 1xDLED-4000 PSU WH ( <b>GREEN LED SQUARE</b> ) or equivalent complete etc as required. <b>(for Corridors)</b>	68	nos	2670.00		181560.00
mkt rate	18	<b>Supply &amp; delivery of 4x14w Recessed Square</b> <b>Luminaire</b> fitting with lamp similar to Philips Catalogue Type - TBS 869 4xTL5 - 14W EBP D8 suitable for use with 4xTL5 - 14W ( <b>Sereno TBS 869</b> ) or equivalent complete etc as required.	186	nos	6370.00		1184820.00
mkt rate	19	<b>Supply of T5 - 28 watt</b> Florescent Tube Light fitting ( <b>ADRENO V2</b> ) similar to Philips Catalogue Type - ADRENO V2 28W TWG 207 HF suitable for use with 1xTL5 28W or equivalent complete including lamps etc. complete as required. <b>( For Faculty rooms &amp; Small Rooms)</b>	64	nos	680.00		43520.00
	20	Supply of AC 230/250 volts, 50Hz 5 star rated ceilling fan as per BEE similar to Usha or equivalent with standard down rod, blades, 2 nos caps etc. complete.					
mkt rate	(a)	1200 mm sweep	168	nos	1550.00		260400.00
	21	Supply of AC 230/250 volts, 50Hz light duty exhaust fans similar to Usha or equivalent including providing nuts, bolts, mounting frame and other accessories etc. complete.					
mkt rate	(a)	300 mm sweep 900 rpm	13	nos	1900.00		24700.00
		<b>TOTAL SUB HEAD (III)</b>				<b>0.00</b>	<b>1767020.00</b>
		<b>SUB HEAD (IV):- EARTHING</b>					
5.4	22	Earthing with GI earth plate 600-mm x 600-mm x 6-mm thick including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc with charcoal or coke and salt as required	4	Set	3996.00	15984.00	
5.6	23	Earthing with Copper earth plate 600-mm x 600- mm x 3-mm thick including accessories and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 meter long etc with charcoal / coke and salt as required	2	Set	8559.00	17118.00	

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5.9	24	Supply & laying 25mmx 5mm GI strip at 0.50mtr below ground as strip earth electrode inclding connection/ termination with GI nuts, bolts.spring, washer etc as required ( jointing shall be done by overlappng & with 2 sets of GI nuts bolt & spring washer spaced at 50mm) <b>( Interconnected Portion )</b>	80	mtr	97.50	7800.00	
5.15	25	Providing & fixing 25mm x 5mm GI strip on surface or in recess for connections etc as required. <b>(for BDB's &amp; Panels )</b>	150	mtr	120.00	18000.00	
5.16	26	Providing & fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as required. <b>(for BDB's &amp; Panels )</b>	100	mtr	30.00	3000.00	
		<b>TOTAL SUB HEAD (IV)</b>				<b>28800.00</b>	<b>0.00</b>
		<b>SUB HEAD (V):- LIGHTNING PROTECTION</b>					
6.2	27	Providing & fixing of Lightning conductor finial , made of 25mm dia 300 mm long, G.I. tube, having single prong at top, with 85mm dia 6mm thick G.I base plate including holes etc. complete as required.	4	each	326.00	1304.00	
6.3	28	Fixing of Lightning conductor finial , single prong with base plate including holes etc. complete as required.	4	each	121.00	484.00	
6.4	29	Jointing coper/G.I tape ( with another copper/G.I tape, base of the finial or any other metallic object) by riveting/ nut bolting/ sweating & soldering etc as required. <b>( For Test Blocks )</b>	4	Each	60.50	242.00	
6.7	30	Providing & fixing of G.I. tape 20mm x 3mm thick on parapet,or surface of wall for lightning conductor complete as required. <b>( For Horizontal Run)</b>	500	mtr	58.00	29000.00	
6.8	31	Providing & fixing of G.I. tape 20mm x 3mm thick on parapet,or surface of wall for lightning conductor complete as required. <b>( For Vertical Run)</b>	200	mtr	81.50	16300.00	
6.10	32	Providing & fixing of G.I. tape 20mm x 3mm thick on parapet,or surface of wall for lightning conductor complete as required. <b>( For Vertical Run)</b>	200	mtr	55.50	11100.00	

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6.12	33	Providing & fixing of testing joint made of 20mm x 3mm thick G.I. strip , 125mm long, with 4 nos. of G.I bolts , nuts, checknuts & spring washers etc complete as required.	4	each	58.50	234.00	
6.14	34	Providing & laying of G.I. tape 32mm x 6mm from earth electrode directly on ground ,etc complete as required.	40	metre	125.00	5000.00	
5.16	35	Providing & fixing 6 SWG wire on surface or in recess for loop earthing from earth electrode including connection with G.I nuts, bolts spring, washer excavation & refilling etc as required	250	mtr	30.00	7500.00	
<b>TOTAL SUB HEAD (V)</b>						<b>71164.00</b>	<b>0.00</b>
<b>SUB HEAD (VI):- DISTRIBUTION BOARDS</b>							
<b>Distribution Board</b>							
	36	Supply, delivery, installation, testing & commissioning of L.T. indoor floor/ wall mounted type distribution boards made out of 2 mm thick CR sheet metal cubicle fixed on m.s. channel base, duly acid treated for derusting, primered and painted with 2 coats of enamel paint of approved shade; dust, damp & vermin proof ; having hinged door and compartmental arrangement for each equipment & busbar chamber on the top of the panel with busbars( Red, Yellow, & Black coloured) running horizontally; having provision for cable/ conduit entry, earthing studs as per specification mentioned below duly factory wired conforming to the relevant ISS and as per special conditions of contract making good the damages caused complete as per the direction of Engineer-in-charge.					
<b>Wires/Busbars sizes for Main busbars</b>							
For 250A MCCB = 4nos. 40x6mm E.C strips							
For 63A MCB = 4nos. 25x3mm E.C strips							
For 40A 4 Pole MCB = 4nos 16sqmm 1.1KV grade FR PVC insulated multistranded copper conductor wires.							
3. for 32A 4Pole MCB = 4nos. 10sqmm 1.1KV grade FR PVC insulated multistranded copper conductor wires.							
<b>NOTE:-</b> Colours coded wires such as Red, Yellow, Blue Black & Green for Phases, Neutral & Earth shall be used for the internal wiring of the panel.							

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						D.S.R. ITEM	N.S. ITEM
		The Fabrication & wiring details drawing to be submitted by the Contractor's and order for fabrication of panel to be placed within a month of order.					
mkt rate	(a)	<b>Main Distribution Board ( MDB )</b> <b>Incoming:</b> 1no.250A 3P MCCB (35kA) <b>Bus bars:</b> 4 Nos. 40x6mm E C Strips <b>Outgoing:</b> 4 nos. 100A 3P MCCB (25kA) with adjustable thermal setting 1 no. 63A 3P MCB "C" (10kA) with 25x4mm EC Strips for neutral 1 no. 63A 4P MCB "C" (10kA) 5 nos. 32A 4P MCB "C" (10kA) 3 nos. 25A 2P MCB "C" (10kA) as per SLD <b>Instruments:</b> 1 No: 250/5A ac ammeter with 250/5A CT's & selector switch 1 Nos: 0-500 V voltmeter with selector switch 3 Nos: LED type R-Y-B phase indicating lamps with control fuses	1	set	165100.00		165100.00
mkt rate	(b)	<b>Floor Distribution Board ( FDB-1F/2F/3F )</b> <b>Incoming:</b> 1 no. 100A 3P MCCB (25kA) with adjustable thermal setting <b>Bus bars:</b> 4 Nos. 25x4mm E C Strips <b>Outgoing:</b> 1 no. 63A 3P MCB "C" (10kA) with 25x4mm EC Strips for neutral 1 no. 63A 4P MCB "C" (10kA) 4 nos. 32A 4P MCB "C" (10kA) 3 nos. 25A 2P MCB "C" (10kA) as per SLD <b>Instruments:</b> 1 Nos: 0-500 V voltmeter with selector switch 3 Nos: LED type R-Y-B phase indicating lamps with control fuses	3	set	52900.00		158700.00
mkt rate	(c)	<b>DB-UPS ( IN ):</b> <b>Incoming:</b> 1 No 63A 4P MCB "C" (10kA) <b>Bus bars:</b> 4 Nos. 20x3mm E C Strips <b>Outgoing:</b> 3 Nos 40A 3P MCB 'C',(10kA) with 100A E.C neutral link 1 Nos 20A 3P MCB 'C',(10kA) with 32A for neutral link duly factory wired complete as per SLD	4	set	24400.00		97600.00
mkt rate	(d)	<b>DB-Lift</b> <b>Incoming:</b> 1 No 40-A 4P MCB "C" (10kA) <b>Outgoing :</b> 1 No 40-A 4P RCCB ( 300mA) 1 No 25-A 4P RCCB ( 300mA) followed by 6 Nos. 6-32A 1P MCB 'C' (10kA) as per SLD. <b>Instruments :</b> 1 No 0-500 volt voltmeter with selector switch & control fuse 3 Nos : phase indicating lamps with control fuses & toggle switches.	1	set	34100.00		34100.00

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2.7	37	Supplying and fixing following way,pre wired SP&N, MCB distribution board,of steel sheet for 240 volts, on surface/recess, complete with loose wire box,terminal connector for all incoming & outgoing circuits, duly prewired suitable size FR PVC insulated copper conductor up to terminal blocks, tinned copper busbar,neutral link,earth bar, din bar, detachable gland plate, interconnections, powder painted including earthing etc, as required.( but without MCB/RCCB/Isolator)					
2.7.6	(a)	2+12 way , Double door (for BDB-L3 (GF/1F/2F/3F)	4	nos	3108.00	12432.00	
	38	Supplying and fixing 5 amps. to 32 amps. Rating, 240/415 volts 'C' curve, miniature circuit breaker suitable for inductive load of following poles in the existing MCB DB complete with connection, testing and commissioning etc. as required as per SLD.					
2.10.1	(a)	Single pole (10kA)	392	nos	141.00	55272.00	
	39	Supply and fixing following rating, Four pole, 415 volts, isolator in the existing MCB DB complete with connections, testing and commissioning etc. as required.as per SLD.					
2.13.1	(a)	32 amps (10kA)	24	nos	554.00	13296.00	
	40	Supply and fixing following rating, double pole, (single phase & neutral) 240volts, residual current circuit breaker (RCCB) having asensitivity current upto 300 miliamperes in the existing MCB DB complete with connections, testing and commissioning etc. as required as per SLD.					
2.14.1	(a)	25 amps 300mA	76	nos	1318.00	100168.00	
	41	Supplying and fixing of 7 segment metallic double door (IP 42) Distribution Board with provision for 4 pole MCB/ RCCB/ RCBO as incomer, DPMCB/ RCCB/ RCBO as sub incomer and SP MCB as outgoing (But without MCB/RCCB/Isolator) as per SLD.					
mkt rate	(a)	4 way (8+12+12), Double door	16	nos	9628.00		154048.00
mkt rate	(b)	6 way (8+12+18), Double door	8	nos	10826.00		86608.00
		<b>TOTAL SUB HEAD (VI)</b>				<b>181168.00</b>	<b>696156.00</b>
		<b>SUB HEAD (VII):- CABLING WORKS</b>					
	42	Supply of ISI marked Al. conductor XLPE insulated cable as per IS 7098, armoured, served, sheathed 1100 volts grade, (Make:Polycab)					
mkt rate	(a)	10 sqmm 4 core ( for Lift )	30	mtr	180.00		5400.00

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						D.S.R. ITEM	N.S. ITEM
mkt rate	(b)	3 1/2 Core x50 sqmm ( for FDB's )	90	mtr	400.00		36000.00
mkt rate	(c)	3 1/2 Core x120 sqmm ( for MDB )	130	mtr	870.00		113100.00
		<b>LAYING OF CABLES</b>					
7.1	43	Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc. as required.					
7.1.1	(a)	Upto 35 sq. mm.	30	mtr	167.00	5010.00	
7.1.2	(b)	Upto 35 sq. mm.to 95sqmm	90	mtr	173.00	15570.00	
7.1.3	(c)	Above 95 sq. mm.up to 185sqmm	130	mtr	179.00	23270.00	
	44	Supplying and making end termination with brass compression gland and Al. lugs for following size of PVC insulated and PVC sheathed / XLPE Al. conductor cable of 1.1 KV grade as required.					
9.1.32	(a)	10 sqmm 4 core	2	Set	146.00	292.00	
9.1.22	(b)	3 1/2 x 50 sq mm	6	Set	262.00	1572.00	
9.1.25	(c)	3 1/2 x 120 sq mm	2	Set	383.00	766.00	
		<b>TOTAL SUB HEAD (VII)</b>				<b>46480.00</b>	<b>154500.00</b>
		<b>SUB HEAD (VIII):- TELEPHONE &amp; NETWORKING WORKS</b>					
	45	Supplying and fixing of following sizes of medium class PVC conduit along with the accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required: (For Tel/Data. Cable).					
1.21.1	(a)	20 mm	1750	mtr	56.50	98875.00	
1.21.2	(b)	25 mm	1000	mtr	64.50	64500.00	
		<b>TOTAL SUB HEAD (VIII)</b>				<b>163375.00</b>	<b>0.00</b>