

SOUTH EASTERN RAILWAY						
Deptt : S&T			E-tender Notice No : ST-OT-ABBS-SORO-Stn			
Name of the Work: S&T Portion of work for (1) Station development work at Soro under Amrit Bharat Station Scheme of Kharagpur Division (2) Railnet connectivity for construction of new 70 beds R/Room instead of 100 bedded Running Room at NMP.						
SN	Description	Unit	Total Qty	Rate	Cost	Inspection Authority
Schedule A-S&T Supply and Execution (SOR Items) Including GST						
1	Excavation of trench in all kinds of soils including soft rocky area and clearing of roots of trees, rocks, bushes, ballast & reconditioning etc., including bailing out water and disposal of extra soil including back filling with excavated earth and ramming of trenches after cable laying for the following depths and widths as specified in Technical Circular No. 2 of 1988 & 01/2010 issued by CSTE/SER. Note:- In case, trenches are other than prescribed depth & width, Proportionate payment shall be released. Depth 1.0 meter, Width 0.3 meter.	Km.	1.5	69727.38	104591.07	
2	Excavation of trenches including clearing of roots of trees etc.in hard/rocky soil by chiselling up to a <b>depth of 0.5 meter to 0.8 meter</b> and width 0.3 meter at the bottom, supply & placing split RCC pipes with collar (for jointing pipes) of 100 mm nominal diameter to Spec. No. IS: 10262-1982 or latest and IS-456-2000 as per SEM Drawing No. 15-D3 (Sheet-2) on sieved soil of 30mm over cable and concreting(1:2:3) throughout the length upto a layer of 75mm approximately, then back filling the trench by digging and carrying earth from a distance of maximum 30 meters and then ramming of soil after cable laying. This includes Split RCC Pipes with collar and all the materials for concreting are to be supplied by the contractor. Materials inspection shall be done by Railway Site Engineer.	Mtrs.	330	578.20	190806.00	Material to be inspected by Authorized Representative of Sr.DSTE/Co/KGP before use
3	Excavation of trench in all kinds of soils including soft rocky area and clearing of roots of trees, rocks etc. to a depth of 1 metre and width 0.3 mtr. For <b>Track/ pucca road/platform crossing/ level crossing</b> as per SEM Drawing No.15-D5 including <b>supply, transportation and laying of DWC pipes (full)</b> with collar(for jointing pipes) Inner diameter/Outer diameter:103mm/120mm to Specification No.14830(Part-2):2001 as per SEM Drawing No. 15-D4,in trench and drawing of cable through DWC pipes with collar(for jointing pipes) including back filling and ramming after cable laying as specified in Tech. Circular No. 2 of 1988 & 01/2010 issued by CSTE/SER for S&T Cables (Cable laying charges is included). This includes repairing and plastering of platform/pucca road after cable laying. Material inspection shall be done by Railway Site Engineer.	Mtrs.	90	679.68	61171.20	Material to be inspected by Authorized Representative of Sr.DSTE/Co/KGP before use
4	Cutting and smoothening of inside surface of sizes 80 mm deep and 170 mm width for single/multiple cable chase in concrete or hard rocks or <b>platform or cemented floor</b> . This work includes laying and covering of cable laid in the chase with standard sizes Second class/Fly Ash brick placed and embedded longitudinally and plastered on the top of the bricks and curing 72 hrs. as per Drawing No. Con/SK/T/1 for the following. (i) Single cable/Multiple cable (upto 3) (see Note 4 of Drawing no. Con/SK/T/1). Note: Bricks, sand and cement shall be supplied by the contractor at site and to be inspected by Railway Site Engineer before placing in the chase.	Mtrs.	300	251.34	75402.00	
5	Supply, transportation and fixing of <b>Galvanised Iron Pipe</b> (make: TATA/Jindal or better) with threaded collars (for jointing pipe) of <b>80 mm nominal bore</b> Specification No. IS: 1239, thickness 3.2 mm medium grade, on bridges, culverts, drain or at places as per instruction of the site Engineer including supply and transportation of materials required for fixing the pipe as per SEM Drawing No.15-D7 including drawing of cables inside the pipe with masonry work at bridge entry and exit of the culvert and curing for 72 hours and pipes are to be clamped at max. 2 meter apart with drilling of holes on the pipe at 10 cm apart for the following S&T Cables. The Galvanized iron pipes and other materials required for fixing to be supplied by the contractor. Material inspection shall be done by Railway Site Engineer before use. This also includes dismantling of released GI Pipe/Trough and released material should be returned at concerned store.	Mtrs.	78	1000.64	78049.92	Material to be inspected by Authorized Representative of Sr.DSTE/Co/KGP before use

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6	Supply of <b>HDPE pipe with OD/ID 40mm/33mm</b> , Thickness 4mm with suitable couplers, plugs, end caps, spacer, T band etc. as per Specification No. RDSO/SPN/TC/45/2013 Rev-2.0 or latest.	KM	4	55509.56	222038.24	Authorized Representative of Sr.DSTE/Co/KGP
7	Transportation of cables in rolls with or without wooden drums (S&T Cables) from concerned store to the site of works.	Drum-KM	1	2286.84	2286.84	
8	<b>Laying of S&amp;T Cables</b> (Signal/Quad/Power) in the excavated trench to Drawing No. CON/SK/T/5. Transportation and supply of 'U' clamps, anchoring of cable at every 10 mtrs interval with 'U' clamp on trench to Drawing No. CSTE/CON /CABLES/81. Transportation, supply and placing of cable demarcating lead belt to Drawing No. CON/SK/T/6 punched at an interval of 30 mtrs. and wrapped round each cable throughout the cable route and also at every track/Road/ platform crossing as above specified in Technical Circular No. 2/1988 & 01/2010 issued by CSTE/SER and guarding the cables collecting empty drums with left over cable and return to the stores of stock holder.	Km	1	19877.10	19877.10	
9	Transportation including loading/ unloading of Optical Fibre Cable along with HDPE pipe from the stores of SSE/Store or from any store of SE Railway to the site with care and <b>laying of OFC</b> as per procedure and returning empty cable drums with or without left over cable to the stores of SSE/Store. It includes supply and placing of warning & Detection tape orange colour of 100 mm. Wide printed in black as "CAUTION OFC CABLE" at every 1 meter interval (Minimum) and laid in the trench in station section and as directed by the Representative of Railway	Km	3	34113.80	102341.40	
10	<b>Execution of Full Apparatus Case</b> with pit, concrete foundation, surrounding earth work, erection, installation as per Drawing No. Con/SK/T/8 and wiring as per SEM Drawing No.19-D8 or as per direction of site engineer. Fixing of Hylam sheet strip of size approx. 925mmx100mmx3mm (including supply) with hole on both side for writing & terminal description, terminals, fuse blocks, relay and other accessories for signal/track circuit, termination of cable with number embossed ferrules, bunching of cables with PVC tape, earthing of cable armour as required. Painting of the apparatus case inside and outside after clearing the surface thoroughly and first coating of anticorrosive paint and subsequent two coats of Aluminium paint outside and red oxide inside and lettering etc. This includes transportation of 25 mm/12mm Hylam sheet for shelf or as required and also includes minor modification in L/Boxes as per site requirement .The contractor shall supply of 4 no. of foundation bolts 22 mm dia. x 450 mm long with 2 flat spring washers, one nut is to be used for each set, sand for filling up cable pit inside the apparatus case and bolts, nuts, screws, MS Clamps for fixing equipment/cable. Note: - Part payment shall be released after completion of- (i) Foundation- 40%, (ii) Erection - 10%, (iii) Wiring, earthing, testing - 20%, (iv) Painting, writings - 10%, (v) Plastering, sand filling & etc. - 10%, (vi) Commissioning 10%	No.	2	8983.34	17966.68	
11	Supply of <b>6 Core Armoured Mono mode OFC cable</b> as per Specification No. IRS:TC 55-2006 Rev.1 or latest.	Km	6	22208.78	133252.68	Authorized Representative of Sr.DSTE/Co/KGP
12	Supply of PVC insulated Single core Multi-strands copper conductor <b>3 Core 2.5 sq.mm power cable</b> with ISI marked	Mtr	2500	101.48	253700.00	Authorized Representative of Sr.DSTE/Co/KGP

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13	Supply of basic material to construct unit <b>Maintenance Free Earth</b> for Single Earth consisting as per Spec. No. RDSO/SPN/197/2016 Ver 1.0 or latest, bonding connections drawing no. SDO/ RDSO/E&B/002. (a) Copper bonded steel electrodes of 3.0 m long, 17.0 mm dia. min. with copper bonding thickness of min 250 micron and UL listed and marked -1 No. (b) Earth Enhancement compound of RDSO approved brand supplied in sealed bags of min 30-35 Kg.- 1 Nos. (c ) Copper Strip of 200mm x 25mm x 6mm to exothermically welded to Earth electrode- 1no.(d) Copper Strip of 300mm x 25mm x 6mm (MEEB) - 1no.(e) Copper Strip of 150mm x 25mm x 6mm (SEEB)- 1no. It includes supply of (i)Supply of 35 Sq. mm Multi-strand Single Core PVC insulated Copper Connector as per IS:694 for connecting Main Earth Electrode to MEEB in the equipment room in duplicate.-10 m. (ii)Supply of 16 Sq. mm Multi-strand Single Core PVC insulated Copper Connector as per IS:694 for connecting MEEB to SEEB and SPDs to MEEB.-10 m. (iii)Supply of 10 Sq. mm Multi-strand Single Core PVC insulated Copper Connector as per IS:694 for connecting various equipments to SEEB- 10 m. As per RDSO spec. for Desire Earth Resistance less than 1(one) Ohms	Set	3	17402.64	52207.92	RDSO
14	<b>Installation of Single Maintenance Free Earth</b> pit as per RDSO Drawing No. SDO / RDSO/ E&B/001 which includes the following:-a) Digging/Auguring/Boring of single earth pit of 100mm to 125mm dia. to the depth of approx. 3 meter. b) Insertion of 3.0 meter electrode and penetrating it minimum 150 mm by pushing gently with sledge hammer where the natural soil is assumed. (c) Filling of earth pit with Earth Enhancement Compound (EEC) in slurry form and backfilling. (d) Carrying out exothermic weld connection on single earth electrode to a copper tape of 200 x 25 x 6 mm. (e) Carrying out exothermic weld connection on the copper tape of 200 x 25 x 6 mm on Earth Electrode for connecting two 35 Sq. mm cables for redundancy. (f) The exothermic welding material for bonding the earth system shall be procured from RDSO approved firms, which includes graphite modules, clamps, weld metal powders. (g) The dimension of the chamber will be of 300 x 300 x 300 mm (inside dimension) of RCC with 50mm thick and fine finish, Inspection chamber should be as per IEC 62561-5 or latest. The top RCC cover size shall be 400mmX400mmX50mm. The date of testing and earth resistance value shall be written on the cover with black base with yellow paint	Set	3	5989.68	17969.04	
15	Supply of <b>Class B &amp; C Surge protection Device (SPD) -Type I &amp; II</b> with Visual Indication and Potential free contact to remote monitoring as per Specification No. RDSO/SPN/165/2012 Ver 3.0 or latest and IEC standard 61643 for Single line 230V AC application with handling Lightning surges of 10/350 microseconds and Switching surges of 8/20 microseconds .One Set consists of 3 nos. of SPD (2 No. of B Class (L-N, N-E) and one no. of C Class (L-N) all enclosed in a Box with KEMA or VDE certified as per latest IEC 61643-11-2011 Standard. Class B & C Surge protection device required with Three modules only.	Sets	2	5900	11800.00	Authorized Representative of Sr.DSTE/Co/KGP
16	Supply of <b>cable fault locator</b> complete with all necessary accessories including rechargeable battery pack and charger Liquid Crystal Display (LCD) with back light. Low Insulation Faults Mode Max. Low Insulation Faults Mode Max. Range: 20 Km etc.	Nos.	1	156839.70	156839.70	Authorized Representative of Sr.DSTE/Co/KGP
17	Supply of <b>Insulation tester 100V, 100 MOHMS</b> with lead cables, Analog Display, metal body hand driven.	Nos	2	2965.34	5930.68	Authorized Representative of Sr.DSTE/Co/KGP
18	Supply of <b>Earth Tester</b> (Analog 4 terminal) Range 0-10/0-100 OHMS Double with accessories.	Nos.	1	4769.56	4769.56	Authorized Representative of Sr.DSTE/Co/KGP
19	Supply of <b>LAN tester UTP cable tester</b> similar to make of Voltec/D-Link.	Nos	4	626.58	2506.32	Authorized Representative of Sr.DSTE/Co/KGP
20	Supply of <b>KRONE TOOL</b> for inserting wire into insulation-displacement connectors similar to krone make.	No	5	401.20	2006.00	Authorized Representative of Sr.DSTE/Co/KGP

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21	Supply of managed SDH (STM-1 Add/Drop MUX and upgradeable to STM-4) fully wired for 2 X 63 MB and equipped for 21E1s and with STM1 (L1.1) aggregate interface including power supply, order wire, Ethernet card, sub rack, inbuilt DDF, installation material and all other accessories, manuals etc. as per TEC. Specification GR SDH 04/02, March 02 or with latest amendment. The contractor will supply all other accessories as mentioned in the above said TEC Specifications and system will have provision of different redundancy cards as per the TEC Specifications. Note: It shall be possible to increase capacity from 21E1 to 63 E1s by adding / inserting tributary cards. This includes connecting all pig tails, optical patch cords etc. to the SDH equipment. This also includes connecting the SDH equipment with all cards to the 48V Bus including supply of wires and connectors. Termination of all E1s on DDF taking PVC cable over runway or a wall. At the terminal station, one port may be disabled if required as per instructions given by site engineer incharge.	No.	2	198068.90	396137.80	Authorized Representative of Sr.DSTE/Co/KGP
22	Installation, wiring, testing & commissioning of managed SDH (STM-1 Add/Drop MUX and upgradeable to STM-4) fully wired for 2 X 63 MB and equipped for 21 E1s and a Virtual Container (VC)-12 with STM-1(L1.1) aggregate interface including power supply, order wire, Ethernet card, sub rack, inbuilt DDF, installation material and all other accessories, manuals etc. as per TEC. Specification GR SDH 04/02, March 02 or with latest amendment.	Set	2	22875.48	45750.96	
23	Supply of 2 MB programmable Primary Digital Drop/Insert multiplexer with conference facility As per Specification No. IRS: TC-68/2012 Amd.1 or latest wired for 30 Circuits complete with power supply, Control and Basis/Common cards (i.e. PSU-02TME-01,LPC-01) Remote control supervision facility and all other accessories etc. The mux shall equipped with following interface cards A) 2W/4W E&M interface card (4ckts per card)-04 nos. B) FXO Exchange loop interface card (4CKTS per card)-2 nos. C) FXS Subscriber interface card(4CKTS per card)-02 nos.	No.	2	149048.16	298096.32	Authorized Representative of Sr.DSTE/Co/KGP
24	Installation, wiring of all 30 channels up to krone modules, testing and commissioning of 2 Mb Programmable Primary Digital drop insert multiplexer as per RDSO Specs. No. - IRS/TC/ 68/2012 Rev.0 with Amendment No.1 or latest. It includes submission of all technical documents, manuals and supply of all miscellaneous items which will be required for final testing and commissioning of the system.	Set	2	14904.58	29809.16	
25	Supply of <b>Thermo shrink jointing (TSF) kits</b> for jointing underground Quad cable 0.9mm diameter conductor for straight through joint, condenser joints, Y-(Derivation) joint, Loading Coil Joint, Transformer Joint as per Specification No. IRS-TC-77/2012 Rev.3 with Amd. 3.0 or latest.	Nos	6	3342.94	20057.64	RDSO
26	<b>Execution of Straight joint on Quad cable/ jelly filled Telecom cable using Thermo-shrink/Universal jointing kit (RTSF).</b> This includes excavation of cable joint pit of size 1.2m x 1.2m x 1.0m for jointing of cables, back filling and ramming after jointing	Nos	8	1411.28	11290.24	
27	Supply of Fibre Distribution Management system (FDMS)/LIU for 12 Fiber complete with all accessories with patch cord & pigtail as per TEC Spec. GR/FDM/01/02 April'2007 or latest. This include supply of installation accessories as per technical specification.	Nos	2	2558.24	5116.48	Authorized Representative of Sr.DSTE/Co/KGP
28	Installation and commissioning of Fibre Distribution Management system (FDMS) for 12 Fiber complete with all accessories with patch cord & pigtail as per TEC Spec. with latest amendment. This include supply of installation accessories as per technical specification.	Nos	2	2048.48	4096.96	
29	Supply of <b>Fibre Distribution Management system (FDMS)/LIU for 24 Fiber</b> complete with all accessories with patch cord & pigtail as per TEC Spec. GR/FDM/01/02 April'2007 or latest. This include supply of installation accessories as per technical specification.	Nos	3	3578.94	10736.82	Authorized Representative of Sr.DSTE/Co/KGP
30	Installation and commissioning of Fibre Distribution Management system (FDMS) for 24 Fiber complete with all accessories with patch cord & pigtail as per TEC Spec. with latest amendment. This include supply of installation accessories as per technical specification.	Nos	3	3943.56	11830.68	

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31	Supply, transportation and installation of <b>joint enclosure for 6/12 fibres</b> optical fibre cable complete with all accessories (sealing with mechanical clamp facility) for splicing of Optical Fibre cable.	Nos	21	1475.00	30975.00	Authorized Representative of Sr.DSTE/Co/KGP
32	Supply of <b>24 Fiber OFC Joint Closure</b> as per Specification No. RDSO/SPN/TC/68/ 2014 Rev 1.0 or latest complete with all accessories (sealing with mechanical clamp facility).	Nos	6	1834.90	11009.40	Authorized Representative of Sr.DSTE/Co/KGP
33	<b>Splicing of Optical Fiber Core and routing in joint closure</b> /FDMS as per instruction of site Engineer.	Core	246	149.86	36865.56	
34	Supply, transportation and installation of <b>RCC joint chamber</b> with two piece top cover and bottom cover with holes for drainage and cable entry, as per Drawing No. RDSO/TCDO/COP-21(a). This includes trenching for jointing pit, back filling and ramming of the pit after placing the joint closure and cable loop in the chamber including dry sand upto 600mm height without causing any damage to same and consolidation of soil as well as disposal of excess soil.	Nos.	4	4724.72	18898.88	Authorized Representative of Sr.DSTE/Co/KGP
35	Supply of <b>20 Pair CT box</b> made of 16 SWG CRC sheet with disconnection and reconnection ( <b>Wago type</b> ). The CT Box should be grey colour powder coated with terminal, washer, nut & bolt should be of brass .There shall also be locking arrangement.	Nos	14	3534.10	49477.40	Authorized Representative of Sr.DSTE/Co/KGP
36	Transportation and fixing of following types of C.T. Box (Aluminium/Wago type) and termination of cable 20 Pair CT box	Nos.	14	899.16	12588.24	
37	Supply of covered <b>19" racks 42 U complete</b> with all fitting for housing the subrack SDH ADMs & PD Mux fully wired including, Power supply distribution system, DDF, Internal wiring and other accessories, runway ladder etc. The components of the rack are specified below- (i) Rack size 2200 HX 600 WX 600 D (ii) Fixed side panels 42U X 600 D (iii) Front glass door plain 42U X 600D (iv) Rear MS door plain 42 U X 600W (v) Levelling screws-4 Nos. (vi) Compact Fan Module working with 48 V DC-2 Nos. (vii) Earth connecting kit-1 No. (viii) Cable manager with cable loops-2 Nos. (ix) Krone mounting bracket-01 No (x) Caster with breaks-2Nos (xi) 20" length 1" width 5 mm thickness copper strip with 12 Nos. of holes including SS bolts & nuts for every hole to connect cables-2 Nos. (xii) 10A single pole DC MCB-2 Nos. (xiii) 6 A single pole DC MCB-2 Nos.	Nos.	1	35272.56	35272.56	Authorized Representative of Sr.DSTE/Co/KGP
38	Supply of <b>9U Rack with 19 inch</b> standard dimension, wall mounting, front glass door with lock and two key, with rack fixing Multi point AC power strip, cable organiser with wall fixing screws	Nos	10	6042.78	60427.80	Authorized Representative of Sr.DSTE/Co/KGP
39	Supply of 24 port L-2 Non-PoE switch CISCO or similar with 2 SFP ports with 3 years warranty complying Specification No. RDSO/SPN/TC/83/2020 Rev.2.0.	Nos	1	27085.72	27085.72	Authorized Representative of Sr.DSTE/Co/KGP
40	Supply of <b>SC to SC Single Mode</b> Simplex/Duplex Fibre Optic Patch Cable 5m length. Make - Tech-Commerce/ D-Link or Similar	Nos	52	199.42	10369.84	Authorized Representative of Sr.DSTE/Co/KGP
41	Supply of High power 250 W <b>PA Amplifier</b> . Make: Ahuja or similar.	Nos	1	11517.98	11517.98	Authorized Representative of Sr.DSTE/Co/KGP
42	Supply of High power 1000 W <b>PA Amplifier</b> . Make: Ahuja or similar.	Nos	1	44470.66	44470.66	Authorized Representative of Sr.DSTE/Co/KGP
43	Supply of <b>STP CAT-6 Cable</b> (Shielded Twisted Pair) STP compliant with latest EIA/TIA-568-B2-1.	Mtrs.	2135	38.94	83136.90	Authorized Representative of
44	Supply of <b>RJ-45 CONNECTOR</b> of reputed make such as D-link or better.	Nos.	100	5.32	532.18	Authorized Representative of Sr.DSTE/Co/KGP
45	Supply of Push button telephone instrument single with caller id facility equivalent to Beetel M 53/ Binatone Concept 700/Panasonic KXTX 880MX Or similar	Nos.	10	879.10	8791.00	Authorized Representative of Sr.DSTE/Co/KGP
46	Supply of Telephone instrument single push button FCT telephone make VISION TEK 81G, SIMADO FX 11, AEGIS or similar.	Nos.	2	3069.18	6138.36	Authorized Representative of Sr.DSTE/Co/KGP

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47	<b>Cement Concrete</b> of proportion 1:3:6 (Cement: Sand: Stone chips of 25mm nominal size) for miscellaneous items. It includes excavation, ramming of CC by using vibrator, curing and plastering with cement and sand mixture (aggregate will not exceed beyond 3.8 cm). Note: All materials required for foundation are to be supplied by the contractor.	Cu. M	6	3582.48	21494.88	
48	Supply of <b>1 inch (25mm) PVC casing capping</b> in rectangular shape with separate Casing & Capping, double lock, heavy duty & ISI mark with IS:14927 or latest with minimum 1 mm thickness.	Mtr	400	34.22	13688.00	Authorized Representative of Sr.DSTE/Co/KGP
49	Supply of <b>PVC conduit pipe rigid plain ended conduit size 1 inch (25 mm)</b> IS:9537(part-3) and 9537 (Part-1) 1980 with latest amendment ISI marked with minimum 1.2 mm wall thickness & one socket at every 3 meter pipe.	Mtr	2000	27.14	54280.00	Authorized Representative of Sr.DSTE/Co/KGP
50	<b>Transportation and Fixing of PVC Conduit pipe/channel/casing capping</b> on wall or structure with drawal of Telecom/Power /Data cable with proper finishing.	Mtr	2400	15.34	36816.00	
51	Supply of <b>C series MCB 2 POLE 32 AMP</b> with metal enclosure. Make Schneider, Legrand, L&T, Havells.	Nos	4	610.06	2440.24	Authorized Representative of Sr.DSTE/Co/KGP
	<b>Total of Schedule A (Incl. GST) =</b>				<b>2924712.01</b>	
<b>Schedule B-S&amp;T Supply and Execution (Non SOR Items) Including GST</b>						
1	Supply, Installation, Testing and Commissioning of 5 KVA On Line UPS with Isolation Transformer as per RDSO Spec No. RDSO/PE/SPEC/0023-2001(rev. 0.0) amnd 2.0 or latest suitable for single phase AC Input and single phase AC output, floor mounted type of Make: APC/ Luminous/ Microtech/ liebert/Numeric indicative or similar backup time 120 Min.	Nos.	1	135204.40	135204.40	Authorized Representative of Sr.DSTE/Co/KGP
2	Supply and Installation of Two way counter communication System with Attendant unit, customer unit, power supply unit and dedicated cable for connecting the system similar to AHUJA make model CCS2300.	No.	4	9765.00	39060.00	Authorized Representative of Sr.DSTE/Co/KGP
3	CAT6 U/UTP Patch cord 2.0 Mtrs. Make - D-Link / Tech- Commerce or Similar	Nos	20	186.95	3739.00	Authorized Representative of Sr.DSTE/Co/KGP
4	Installation of 9U Rack with 19 inch. All petty fixing materials to be supplied by the contractor.	Nos.	10	508.24	5082.40	
5	Supply, Installation, Testing and commissioning of PCM TDM integrated access Device. Specification : Chassis (height) : 1U, 19-inch wide, Number of Service-slots : 3 slots for I/O modules, I/O modules : 4E1, FXO, FXS, Hot line, 2/4W E&M, RS232/V.24, ETH, Characteristic: IEEE 802.3, Supports 512x512 cross-connect based on 64K with signaling. MAKE - MROTEK /Team Engineer or Similar.	No	6	75327.66	451965.96	Authorized Representative of Sr.DSTE/Co/KGP
6	Supply, installation, testing and commissioning of of Wide Area Network (WAN) Routers as per RDSO specification No. RDSO/SPN/TC/84/2008 Rev. 0.0 or latest for Tier 2. It must consist 02 no. of 100/1000 Mbps LAN Ports, 04 no. of 2 Mbps WAN ports, It shall support variety of interfaces like V.35 Sync Serial (64Kbps, 2 Mbps), G.703, Ch-E1, E3 Interfaces for future uplink purposes, Ethernet Interfaces – 1Gbps, 10/100 Mbps, ISDN PRI, BRI, ATM. Make - CISCO or Similar.	Nos	2	108973.00	217946.00	Authorized Representative of Sr.DSTE/Co/KGP
7	Supply of Layer 2 Switch ( Minimum 8+2 port manageable) with 8 nos 10/100/1000 mbps ethernet port, POE and 2 nos 1000BaseT SM SFP ports with optical modules complete with all accessories as per RDSO Spec No RDSO/SPN/TC/65/2019 Rev-5 or latest. Make-- CISCO/RUCKUS/JUNIPER/Arista or Similar.	Nos	12	11,798.82	141585.84	Authorized Representative of Sr.DSTE/Co/KGP
8	Supply, Installation, Testing & Commissioning of Aggregate Switch ( 24xG SFP ports and 4x10G SFP+ ports) as per RDSO Specification No RDSO/SPN/TC/65/2021 Version 6.0 or latest. Make- CISCO/RUCKUS/JUNIPER/Arista or Similar.	Nos	2	84380.63	168761.26	Authorized Representative of Sr.DSTE/Co/KGP
9	Supply and installation of 32 channel NVR as per specs No. 10.2 of RDSO specs No. RDSO/SPN/TC/65/2021 Version 6.0 or latest.	Nos	1	28320.00	28320.00	Authorized Representative of Sr.DSTE/Co/KGP
10	Supply of 8 TB Wired Portable Hard Disk .Specification: Connectivity Technology :SATA, Performance Class : 5400 RPM orbetter Make:Seagate/Western-digital/Toshiba or Similar.	Nos	4	17356.50	69426.00	Authorized Representative of Sr.DSTE/Co/KGP

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11	Supply , Installation, Testing & commissioning of Bullet Type IP Color camera along with housing and mount andall accessories required for their Installationas per RDSO Spec No.RDSO/SPN/TC/65/2021 version 6.0 or latest. All the fixing materials to be supplied by the contractor.	Nos	12	18540.95	222491.40	MITES
12	Supply, Installation, Testing &commissioning of Full HD Resolution PTZ (Pan, Tilt, Zoom) IP Colour Camera with varifocal lenses alongwith housing and mount with all accessories as per RDSO Specification No. RDSO/SPN/TC/65/2021 Version 6.0 or latest. All the fixing materials to be supplied by the contractor.	Nos	1	83013.00	83013.00	MITES
13	Supply & installation of Digital Keyboard Joystick for monitoring PTZ Camera at Stations (ONVIF Support). having HDMI, Ethernet and USB. Make- Hikvision /CP Plus or Similar.	Nos	1	22395.45	22395.45	Authorized Representative of Sr.DSTE/Co/KGP
14	55 inch LARGE SCREEN MONITOR. Make/Brand - LG / Sony /OnePlus/Samsung or similar	Nos	2	39091.20	78182.40	Authorized Representative of Sr.DSTE/Co/KGP
15	Concealed wiring of Cat-6 UTP/STP/OFC/Power/Telephone cable/PA Cable or any other Cable etc in the PVC Pipe/PVC Channel by making groove of 3 inch in the wall, fixing the PVC Pipe (maximum three pipe ) with clamps ,nails and plastering and distemping/white wash to make it as it was earlier as per instruction of engineer incharge.This includes laying & fixing of all the PVC pipe as colour in the systematic way as per instruction of Railway Engg at site required for all type of cable laying .All the sundry items for the work has to be supplied by the contractor including PVC pipe/channel. Railway will supply all type of telecom cable .All the cables will be drawn from the specified location, as per approved diagram.	Mtr.	300	230.00	69000.00	
16	Supply 16 Amps MCB double pole, suitable for operation in 230 volt, 50Hz, conforming to IS:60898. Make- Havells or Similar.	Nos	2	321.58	643.16	Authorized Representative of Sr.DSTE/Co/KGP
17	Supply of Microprocessor based railway fare display unit with RS-232 serial for connection either and dumb terminal or thin client and compatible with both UTS & PRS terminal. The system should decode the information to display source station, destination statin, date of journey, train number class, number of adult, number of children, number of passenger & fate in Rs. Connecting cable should be provided with the system. Make : Crosstel or equivalent.	No.	3	8,425.20	25275.60	Authorized Representative of Sr.DSTE/Co/KGP
18	Supply of GI CABLE TRAY PERFORATED, Size- 300 X 50 X 1.6 MM, Along with accessories Coupler,Nut,Bolts with down rod Make- Anchor or similar. Accepted Offer- With Accessories, 53 nos. Coupler with Nut, Bolt and 6 Nos. Down Rod of 1 meter length with each cable tray of 2.5 meter length.	Mtrs.	550	764.64	420552.00	Authorized Representative of Sr.DSTE/Co/KGP
19	Installation of Cable Tray. All petty fixing material to be supplied by the contractor.	Mtrs.	550	38.23	21026.50	
20	Supply of Crimping Tools of reputed make (ISI or BIS or equivalent quality standard )	No	5	798.99	3994.95	Authorized Representative of Sr.DSTE/Co/KGP
21	Supply & installation of <b>GPS based Jumbo Clock</b> as per Specification (1) Display dimensions: 1450(H) X 4200(L) X 80(D) mm. (2) LED Pitch: 15 mm (Horizontal) X 15 mm (Vertical). (3) LED Color: RED (625 Wavelength ), LED intensity: >6000 Med, LED Size: 5 mm, Lighting type: Day and Night viewable, Brightness control: Time based automatic. (4) Viewing distance:> 500 meters. (5) Interface: RS485/RS422. (6) SMPS based power supply. (7) Temp Range: -10 degree C to +70 degree C. (8) Network link: RDSO external GPS. This includes all necessary accessories such as hanging bars, bolts, nuts for fixing on roof, power cable terminations with GPS antenna and provision of rain shed of required size	Nos.	1	224200.00	224200.00	MITES
22	43 Inch Smart LED TV. Make- LG/Samsung or similar. All the fixing materials to be supplied by the contractor.	Nos.	2	42450.00	84900.00	Authorized Representative of Sr.DSTE/Co/KGP
23	Supply of SFP+ Small form factor pluggable transceiver. Make - CISCO or Similar.	Nos	8	1,575.00	12600.00	Authorized Representative of Sr.DSTE/Co/KGP

SN	Description	Unit	Total Qty	Rate	Cost	Inspection Authority
24	Supply of Anchor 6 Way Power Trip Spike Guard Universal Socket. Specification.: No. ofSockets - 5 Pin 6 Amp. 04 nos, 6 Amp Switches -3 nos, No. of cores in the cable -3nos, Length of cable with Extension Box - 3Mtr, ISI Marked Socket, Input PlugRating - 6Amp., No. of pin in the input plug - 3nos, Power on indicator available.	Nos.	4	501.67	2006.68	Authorized Representative of Sr.DSTE/Co/KGP
25	Supply, Installation and termination of cat-6 I/O at Patch panel/Jack Panel end	Nos.	10	354.00	3540.00	Authorized Representative of Sr.DSTE/Co/KGP
26	Supply of 4 port FXS gateway.It shall be compatible in all aspects with theexisting VOIP network. specification: it shall support telephone interfaceof RJ-11 ports, it shall support the network interface 10/100 mbps dual RJports it shall support PSTN fail over lifeline,it shall support voicecompression of G.711,G723,G.726 &G.729, it shall support fax overIP(T38), it shall support IP signalling of SIP, it shall support multiple SIPserver profile, it shall support provisioning of TFTP,HTTP, it shall work on12 V DC similar to Grand stream GXW 4004.	Nos.	1	7760.44	7760.44	Authorized Representative of Sr.DSTE/Co/KGP
27	Installation of 4 Port FXS gateway.	Nos.	1	388.02	388.02	
28	Supply, transportation, installation, testing and commissioning of Wi-Fi Access controller High-Power Wireless Router, 450 Mbps or better along with all accessories. Make- TP-Link or similar	Nos.	1	3310.00	3310.00	Authorized Representative of Sr.DSTE/Co/KGP
29	Non-Executive open standard SIP phone. Technical specification attached.	Nos.	4	4531.51	18126.04	Authorized Representative of Sr.DSTE/Co/KGP
30	Supply of 1 KVA offline UPS with inbuilt 2X7.2 Ah battery backup & backup time as per the load having Automatic Voltage Regulator (AVR) with Wide Input Voltage Range 145-290V. Make- APC/Luminous/V-Guard/Exide/Microtek or Similar.	Nos.	4	4500.00	18000.00	Authorized Representative of Sr.DSTE/Co/KGP
31	CAT6 U/UTP Patch cord 2.0 Mtrs. Make - D-Link / Tech- Commerce or Similar	Nos.	20	186.95	3739.00	Authorized Representative of Sr.DSTE/Co/KGP
32	Supply & Configuration & Commissioning of 8 Port OLT including FAN unit, Dual Power Supply, basic & enhance installation kit, all type of SFPs . Make & model TJ1400 -1 or similar. OLT consisting of 1(I) 1 OLT, 1RU GPON OLT with 8 x GPON + 2 X 10GE (SFP+) +4 X1GE(SFP) (FTU included). - 01 No. (ii) DC PSU -2 Nos. 1 (iii) Basic installation Kit for AC PSU for India Customers : Contains Two AC PSU cables suitable for India, Earth Cable, Fasteners and NMS Cable - 01 No. 1(iv) Enhanced Installation Kit for OLT System : Contains Alarm cable, BITS cable, LCT Ethernet cable and Diag cable- 01 No. 1(v) GPON port (OLT) Class B+SFP - 08 Nos. 1(vi) Optical, SFP+, 10 baseLR/LW, STM64, 9.95 Gbps to 11.3Gbps, 1310, with CDR, 10 Km, Duplex LC, Commercial - 02 Nos. 1 (vii) 1000 Base LX 1310 nm. SM (10u) interfaces (10 Kms)-02 Nos. 1(viii) Patch Cord SC-APC to SC-APC SM-10 Mtrs (Splitter/FDMS to ONT). 1(ix) Patch Cord, SC-SC/APC, 10 Meters (PON port to FDMS) - 08 Nos. 1 (x) Patch Cord LC-LC Single Mode Dia 2 mm 5 mtrs - 08 Nos. 1(xi) Cable Assy RJ45- RJ45 shields 120 Ohms Clock RoHS Non OEM 3 Mtrs.	Set	1	141598.82	141598.82	Authorized Representative of Sr.DSTE/Co/KGP
33	Supply, Installation and commissioning of 2.5 Gig PON Port SFP Module for OLT.	Nos.	5	6870.41	34352.05	Authorized Representative of Sr.DSTE/Co/KGP
34	4 ports Enterprise WI-FI Enabled ONT. Make- TP-Link or Similar	Nos.	5	2947.00	14735.00	Authorized Representative of Sr.DSTE/Co/KGP
35	Optical Power Splitter 1:8	Nos.	5	177.00	885.00	Authorized Representative of Sr.DSTE/Co/KGP
36	Optical Power Splitter 1:4	Nos.	5	161.66	808.30	Authorized Representative of Sr.DSTE/Co/KGP
37	Supply of 1:16 Fiber Optical Splitter 1310 nm PLC Type SC Input SC Output conforming to ITU-T recommendation G.652D	Nos.	5	5295.44	26477.20	Authorized Representative of Sr.DSTE/Co/KGP
38	Supply of SC to SC Single Mode Simplex/Duplex Fibre Optic Patch Cable 5m length. Make - Tech-Commerce/ D-Link or Similar	Nos.	5	199.42	997.10	Authorized Representative of Sr.DSTE/Co/KGP



SN	Description	Unit	Total Qty	Rate	Cost	Inspection Authority
39	SUPPLY, INSTALLATION AND COMMISSIONING OF 2 KVA ONLINE UPS WITH 120 MINUTES BACK UP AND WITH IGBT-PWM WITH IN BUILT ISOLATION TRANSFORMER, INCLUDING BATTERIES, INPUT POWER SINGLE PHASE 160V - 260V SINE WAVE 50 HZ, OUTPUT POWER SINGLE PHASE 230V +/- 1% SINE WAVE 50 HZ, MINIMUM VAH=6400 VAH, WITH OUT TROLLEY BUT WITH RACK, CABLING FOR INPUT AND OUTPUT OF 5 METERS, DEGREE OF PROTECTION OF IP 20, SMF-VRLA BATTERIES, OVERALL EFFICIENCY >= 90%; MAKE - APC/ LUMINOUS/ NUMERIC or Similar.	Nos.	1	69620.00	69620.00	Authorized Representative of Sr.DSTE/Co/KGP
	<b>Total of Schedule B (Incl. GST) =</b>				<b>2875708.97</b>	
	<b>Total of Schedule A+B (Incl. GST) =</b>				<b>5800420.98</b>	