



भारत सरकार
कार्यालय मुख्य अभियंता सी० एस० क्यू० (वै०)
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ए विंग, निर्माण भवन, नई दिल्ली- 110011
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File No.9(2)DSR/CE CSQ(E)/2025/ 568-H

Date: 27-11-2025

CORRECTION SLIP No. 1

Sub:- Correction slip of CPWD Delhi Schedule of Rates (E&M) 2025.

In view of feedbacks received from field units, various OEMs and other Stakeholders certain corrections/modifications are hereby made in CPWD Delhi Schedule of Rates (E&M) 2025 (Combined and updated upto 08/2025) in the items of respective Chapters/sub-heads as per Annexure-I enclosed. The corrections made in DSR (E&M)-2025 (i/c correction slips) supersedes the previous description/nomenclature & rates of DSR (E&M)-2025 (i/c correction slips) in respective items. In case of any discrepancies between DSR (E&M)-2025 (i/c correction slips) and DAR (E&M)-2025 (i/c correction slips) of respective items then modified descriptions/nomenclature & rates of respective items of DSR (E&M)-2025 (i/c correction slips) shall prevail.

Corrections/modification are made in the following items: -

Sl. No.	Chapters/ Subheads	Item No.
1.	Chapter-4-Cable Trays	4.4.2, 4.5.4
2.	Chapter-8 -LED Light	8.3, 8.8, 8.9, 8.9.3, 8.18
3.	Chapter-11-MV Cable Jointing & End Termination	11.2.23, 11.2.24, 11.4.29
4.	Chapter-12-Pole Erection	12.5
5.	Chapter-15 -MISC. Civil Work	15.14.4
6.	Chapter -19-Facade Lighting	19.10.1
7.	Chapter-20-Fountain	20.5.6
8.	Chapter-26-Un-interrupted Power Supply (UPS)	26.1, 26.2
9.	Chapter-27-Wet Riser & Sprinkler System	27.12.2, 27.12.3, 27.12.4, 27.12.5, 27.12.6, 27.13, 27.17.2, 27.18.1, 27.18.2
10.	Chapter-28-Fire Detection and Alarm System	28.1.10, 28.5.3.3, 28.5.3.4
11.	Chapter-30-HVAC (Only Plumbing, Ducting & AHU)	30.2.13, 30.2.14, 30.27.11, 30.27.12
12.	Chapter-32-Unitary System	32.3, 32.5
13.	Chapter-39-LAN System	39.1, 39.2, 39.3, 39.4, 39.5, 39.7, 39.8, 39.9, 39.10, 39.14, 39.18.1, 39.18.2, 39.18.3, 39.18.4, 39.22
14.	Chapter-40 CCTV Camera	40.1, 40.2, 40.8, 40.9, 40.9.3, 40.10, 40.11
15.	Appendix -I (Basic rate of labour & hire charges)	Code No 1021
16.	Appendix-II (Basic rate of Material Code Nos.)	5246,5247,5248,5249

This issues with the approval of competent authority.

Enclosure:- Annexure I

File
(जे० पी० जे०)

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All Officers of CPWD, PWD Delhi and others

ANNEXURE I

EXISTING				MODIFIED			
Code No.	Description	Unit	Rate	Code No.	Description	Unit	Rate
CHAPTER 4 – CABLE TRAYS							
4.4	Supplying and installing following size of perforated painted with powder coating M.S. cable trayspainting suspenders, fastner etc as required.			4.4	Supplying and installing following size of perforated painted with powder coating M.S. cable trays painting suspenders, fastener etc as required.		
4.4.2	150 mm width X 50 mm depth X 1.6 mm thickness	Each	1498	4.4.2	150 mm width X 50 mm depth X 1.6 mm thickness	Each	1458
4.5	Supplying and installing following size of perforated painted with powder coating M.S. cable trays Reducer with perforation, fastner etc as required.			4.5	Supplying and installing following size of perforated painted with powder coating M.S. cable trays Reducer with perforation fastener etc as required.		
4.5.4	300 mm width X 50 mm depth X 1.6 mm thickness	Each	1876	4.5.4	300 mm width X 50 mm depth X 1.6 mm thickness	Each	1836
CHAPTER-8 LED LIGHT							
8.3	LED Down lighter (SMD Type) (System lumen efficacy >135 lm/Watt) Supplying, installation, of LED Recessed/surface Down lighter (Round /square/Rectangular) SMD type of following body material Operating voltage AC 140-270 Volt, frequency 50/60 hz, Operating temp range - 5 deg to 40 deg centigrade, System lumen efficacy >135 lm/Watt as approved by Engineer-in-Charge.....			8.3	LED Down lighter (SMD Type) (System lumen efficacy ≥135lm/Watt) Supplying, Installation,of LED Recessed/surface Down lighter (Round /square/Rectangular) SMD type of following body material Operating voltage AC 140-270 Volt, frequency 50/60 Hz, Operating temp range - 5°C to 40°C , System lumen efficacy ≥135 lm/Watt as approved by Engineer-in-Charge.....		



8.8	LED Panel light 2x2 ft., (System lumen efficacy >135 lm/Watt) Supplying, installation,of Panel light 2x2 ft., ----- Operating voltage AC 140-270 Volt, frequency 50/60 hz, Operating temp range -5 °C to 40 °C, -----IP20, CRI>80, UGR (Unified Glare Rating) < 19, Flicker free, ----- System lumen efficacy >135 lm/Watt as approved by Engineer-in-Charge			8.8	LED Panel light 2x2 ft., (System lumen efficacy≥135 lm/Watt) Supplying, installation, of Panel light 2x2 ft., Operating voltage AC 140-270 Volt, frequency 50/60 Hz, Operating temp range -5 °C to 40 °C, IP20, CRI>80, UGR (Unified Glare Rating) < 19, Flicker free, System lumen efficacy≥135 lm/Watt as approved by Engineer-in-Charge		
8.9	LED Batten light (System lumen efficacy ≥105 <120 lm/Watt). Supplying, Installation, of LED surface mounted Batten light of following body material and construction Operating voltage AC 140-270 Volt, frequency 50/60 hz,----- (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C). Powder coated die cast /Extruded aluminium Body (Thickness ≥1.20 mm)			8.9	LED Batten light (System lumen efficacy ≥ 105 <120 lm/Watt). Supplying, Installation, of LED surface mounted Batten light of following body material and construction Operating voltage AC 140- 270 Volt, frequency 50/60 Hz, ----- (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C). Powder coated die cast /Extruded aluminium Body (Thickness ≥1.20 mm)		
8.9.3	36 watt	Each	678	8.9.3	36 watt	Each	705
8.18	LED Smart Street light fixture, powder coated pressure die cast aluminium (System. System lumen efficacy ≥105 and <120 lm/Watt) Supplying, installation,of Smart Street light LED fixture, ----- Input voltage: 140-270 Volt AC, frequency 50/60 hz, Operating temp range -15 °C to 50 °C, internal surge protection of 5 KV L, N, E as approved by Engineer-in-			8.18	LED Smart Street light fixture, powder coated pressure die cast aluminium (System. System lumen efficacy ≥105 and <120 lm/Watt) Supplying, installation,of Smart Street light LED fixture,Input voltage: 140-270 Volt AC, frequency 50/60 Hz, Operating temp range -5 °C to 50 °C internal surge protection of 5 KV L, N, Eas approved by Engineer-in-Charge as		

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	Charge as per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C).				per requirement. (Thermal management: heat sink of aluminium housing such that LED junction temperature shall not rise above 90°C).		
CHAPTER -11 MV CABLE JOINTING & END TERMINATION							
11.2	Supplying and making outdoor end termination with cast resin compound including as required.			11.2	Supplying and making outdoor end termination with cast resin compound including as required.		
11.2.23	3½ X 150 sq. mm	Each	2643	11.2.23	3½ X 150 sq. mm	Each	2117
11.2.24	3½ X 185 sq. mm	Each	2117	11.2.24	3½ X 185 sq. mm	Each	2643
11.4	Supplying and making straight through joint with heat shrinkable kit including as required.			11.4	Supplying and making straight through joint with heat shrinkable kit including as required.		
11.4.29	4 X 16 sq. mm	Each	4210	11.4.29	4 X 16 sq. mm	Each	2374
CHAPTER 12 – POLE ERECTION							
12.5	Providing and making steel pole collar with cement concrete etc as required. (volume of pole/ pipe not to be deducted)	cum	8834	12.5	Providing and making steel pole collar with cement concreteetc as required. (volume of pole/ pipe not to be deducted)	cum	9096
CHAPTER 15 MISC.CIVIL ITEMS							
15.14	Providing, laying and fixing following dia RCC pipe NP2 class (light duty) in ground complete etc as required.			15.14	Providing, laying and fixing following dia RCC pipe NP2 class (light duty) in ground completeetc as required.		
15.14.4	300 mm dia	Meter	1293	15.14.4	300 mm dia	Meter	1303
CHAPTER-19 FACADE LIGHTING							
19.10	Processor			19.10	Processor		
19.10.1	Supplying Installation of push button type keypad with 10 buttons ... etc as required	Each	10473	19.10.1	Supplying Installation of push button type keypad with 10 buttons....etc as required	Each	8962
CHAPTER 20 FOUNTAIN							

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20.5.6	40 mm internal threaded with 17 mm orifice.	Each	3078	20.5.6	40 mm internal threaded with 17 mm orifice.	Each	7397
CHAPTER 26 (UNINTERRUPTED POWER SUPPLY (UPS))							
26.1	Online UPS - Input supply: Single Phase, Output Supply: Single Phase. Supplying, installation, ... of following capacity at full load (Unity Power Factor) ON LINE Uninterrupted Power Supply (UPS) system on full load (Battery shall be VRLA, SMF in ABS Container) and Static Bypass switch along with provision for manual bypass, suitable isolation transformer for additional protection against neutral faults etc..... The UPS should have QR code which should contain drawing, test report OEM manual, Geo- Tag of manufacturing location etc			26.1	Online UPS - Input supply: Single Phase, Output Supply: Single Phase. Supplying, installation, of following capacity at full load (Unity Power Factor) ON LINE Uninterrupted Power Supply (UPS) system on full load (Battery shall be VRLA, SMF in ABS Container) and Static Bypass switch along with manual bypass, suitable isolation transformer for additional protection against neutral faults etc..... The UPS should have QR code which should contain drawing, test report OEM manual, Geo- Tag of manufacturing location etc		
26.2	Online UPS- Input supply: Three Phase, Output supply: Three Phase. Supplying, installation, of following capacity on full load (Battery shall be VRLA, SMF in ABS Container) and Static Bypass switch along with provision for manual bypass, suitable isolation transformer for additional protection against neutral faults etc..... The UPS should have QR code which should contain drawing, test report OEM manual, Geo- Tag of manufacturing location etc			26.2	Online UPS- Input supply: Three Phase, Output supply: Three Phase. Supplying, installation, ... of following capacity on full load (Battery shall be VRLA, SMF in ABS Container) and Static Bypass switch along with manual bypass, suitable isolation transformer for additional protection against neutral faults etc..... The UPS should have QR code which should contain drawing, test report OEM manual, Geo- Tag of manufacturing location etc		
CHAPTER 27 WET RISER & SPRINKLER SYSTEM							

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27.12	Supplying, fixing,of double flanged sluice valve of rating PN 1.6conforming to IS 780 of following sizes as required :			27.12	Supplying, fixing, ... of double flanged sluice valve of rating PN 1.6 ... conforming to IS 780 of following sizes as required :		
27.12.2	50 mm dia	Each	7639	27.12.2	50 mm dia	Each	7691
27.12.3	65mm dia	Each	9797	27.12.3	65mm dia	Each	9869
27.12.4	80mm dia	Each	11314	27.12.4	80mm dia	Each	11386
27.12.5	100mm dia	Each	15483	27.12.5	100mm dia	Each	15603
27.12.6	150mm dia	Each	23968	27.12.6	150mm dia	Each	24088
27.13	Supplying and fixing orifice plate made out of 6 mm thick stainless steel (Grade 304)complete as required.	Each	1436	27.13	Supplying and fixing orifice plate made out of 6 mm thick stainless steel (Grade 304) complete as required.	Each	1424
27.17	Supplying and fixing first-aid Hose Reel with MS construction spray painted in post office red, conforming to IS 884 complete with the following as required.			27.17	Supplying and fixing first-aid Hose Reel with MS construction spray painted in post office red, conforming to IS 884 complete with the following as required.		
27.17.2	40 m	Each	17034	27.17.2	40 m	Each	11086
27.18	Supplying & fixing 63 mm dia gun metal short branch pipe with 20 mm to interconnect hose pipe coupling as required:			27.18	Supplying & fixing 63 mm dia gun metal short branch pipe with 20 mm to interconnect hose pipe coupling as required:		
27.18.1	Gun metal	Each	4977	27.18.1	Gun metal	Each	2544
27.18.2	Stainless Steel (Grade 304)	Each	3402	27.18.2	Stainless Steel (Grade 304)	Each	1756
CHAPTER 28- FIRE DETECTION AND ALARM SYSTEM							

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28.1.10	Supplying, installation, ...of main control and indicating panel made out of 16 SWG MS sheet, Battery charger trickle cum boost to take complete load of fire alarm & PA system complete with all accessories including providing & fixing of 2 nos.12 volt, 60 AH each sealed maintenance free batteries -1 set.	Each	10033	28.1.10	Supplying, installation, ...of main control and indicating panel made out of 16 SWG MS sheet, Battery charger trickle cum boost to take complete load of fire alarm & PA system complete with all accessories including providing & fixing of 2 nos.12 volt, 60 AH each sealed maintenance free batteries -1 set.	Each	75339
28.5	CABLING & WIRING			28.5	CABLING & WIRING		
28.5.3.3	speaker cable Three pair, 2-core, 1.5 sqmm	Meter	134	28.5.3.3	speaker cable Three pair, 2-core, 1.5 sqmm	Meter	133
28.5.3.4	speaker cable Four pair, 2-core, 1.5 sqmm	Meter	171	28.5.3.4	speaker cable Four pair, 2-core, 1.5 sqmm	Meter	169
CHAPTER 30 HVAC(ONLY PLUMBING,DUCTING & AHU)							
30.2	Supplying, laying/ fixing,of following nominal sizes of chilled water piping inside the building ... following closed cell elastomeric nitrile rubber of minimum 45 Kg / cu m density, thermal conductivity 0.037 W/MK or better at 20 deg mean temperature class 'O' insulation applied by suitable adhesive as per specifications and as required complete in all respect.			30.2	Supplying, laying/ fixing,of following nominal sizes of chilled water piping inside the buildingfollowing closed cell elastomeric nitrile rubber of minimum 55 Kg / cu m density, thermal conductivity 0.034 W/m.K or better at 10°C mean temperature class 'O' insulation applied by suitable adhesive as per specifications and as required complete in all respect.		
30.2.13	32 mm dia(19 mm thick insulation)	Meter	1321	30.2.13	32 mm dia(19 mm thick insulation)	Meter	1266
30.2.14	25 mm dia(19 mm thick insulation)	Meter	1110	30.2.14	25 mm dia(19 mm thick insulation)	Meter	1069
30.27	Supplying, Installation, ..of factory built in confirmation to IS 18794 : 2024 floor mounted chilled water double skin type horizontal/vertical air handling units made of(Total static pressure considered is max. 50 mm wg).			30.27	Supplying, Installation, ...of factory built in confirmation to IS 18794 : 2024 floor mounted chilled water double skin type horizontal/vertical air handling units made of(Total static pressure considered is max. 50 mm wg).		

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30.27.11	20400 CMH*		316621	30.27.11	20400 CMH*		301047
30.27.12	23800 CMH*		301047	30.27.12	23800 CMH*		316621
CH-32 (UNITARY SYSTEM)							
32.3	Supply, Installation,of air cooled ducted split type air conditioning machine operation on 415 + 10% volts, 50 Hz, A.C. supply for Blower motor,etc. complete as per CPWD specification as required.			32.3	Supply, Installation,of air cooled ducted split type air conditioning machine operation on 230/415 ± 10% volts, 50 Hz, A.C. supply for Blower motor,etc. complete as per CPWD specification as required.		
32.5	Supply, Installation, ...of Air Cooled Floor standing Tower type split Air conditioners Working between 180-260V with low & high voltage cutoff and 50 hz,1 phase AC supply etc. complete as per CPWD specification and as per IS: 1391 as required.			32.5	Supply, Installation, of Air Cooled Floor standing Tower type split Air conditioners working between 415 ± 10% Volt with low & high voltage cutoff and 50 Hz, 3 phase AC supply etc. complete as per CPWD specification and as per IS: 1391 as required.		
CHAPTER -39 LAN							
39.1	Supplying, installation, Testing and commissioning of following capacity 8 port Layer 2 indoor Network Switch having features and specifications etc. as with operating temperature of -5 °C to +50 °C. Jumbo frame: 10KB or higher, IGMP Snooping, LLDP, LLDP-MED, SNTP/NTP, RMON, SNMP v1,v2c, v3 and SNMP Traps. Certifications: UL, CE, FCC, RoHS, MTCTE, OEM/Product must be on Trusted Telecom Portal of Department of Telecommunication, Government of India etc. complete as required.			39.1	Supplying, installation, Testing and commissioning of following capacity 8 port Layer 2 indoor Network Switch having features and specifications etc. as with operating temperature of -5 °C to +50 °C. Jumbo frame: 9KB or higher , IGMP Snooping, LLDP, LLDP-MED, SNTP/NTP, RMON, SNMP v1, v2c, v3 and SNMP Traps. Certifications: FCC, CE marked, UL/EN, RoHS and relevant MTCTE(TEC)/BIS compliance/certification as applicable , etc. complete as required.		
39.2	Supplying, installation, Testing and commissioning of following capacity 8 port PoE Layer 2 Industrial Grade			39.2	Supplying, installation, Testing and commissioning of following capacity 8 port PoE Layer 2 Industrial Grade outdoor		

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	outdoor Network Switch having features and specifications etc. as additional 4 X 1G SFP Ports with packet forwarding rate of 17Mpps or higher.... IP30 rated, DIN Rail, -5° to 70° C operating temperature. Certificate: UL, CE, FCC, NEMA-TS2, IEC/MIL-STD for Shock, Vibration & Drop Certificate. OEM Should have Certificate for Industrial Cyber Security Capability IEC-62443-4-1:2018, ISO 45001, ISO 27001 and ISO 14001 Certified or Equivalent Indian Certificate. OEM/Product must be on Trusted Telecom Portal of Department of Telecommunication, Government of India etc. complete as required.				Network Switch having features and specifications etc. as additional 2 X 1G SFP/RJ45 Combo Ports with packet forwarding rate of 14Mpps or higher, IP30 rated, DIN Rail, -5° to 70° C operating temperature 6 KV Lightning protection. Certifications: FCC, CE marked, UL/EN, RoHS and relevant MTCTE(TEC)/BIS compliance/certification as applicable, NEMA-TS2, IEC/MIL-STD for Shock, Vibration & Drop Certificate, Industrial Cyber Security Capability IEC-62443-4-1:2018/ CERT-IN , ISO 45001, ISO 27001, and ISO 14001 Certified or Equivalent Indian Certificate, etc. complete as required.		
39.3	Supplying, installation, Testing, and commissioning of following capacity 24 port Layer 2 indoor Network Switch having features and specifications etc. asSwitching capacity of min. 168Gbps and packet forwarding rate of 125Mpps or higher, 16K MAC table. Console Port, USB port, Stacking support of min. 8 units per stack. Internal all Gigabit Ethernet ports and, on all GE RJ, -45 access ports. Certifications: UL, CE, FCC, RoHS, MTCTE, OEM/Product must be on Trusted Telecom Portal of Department of Telecommunication, Government of India etc. complete as required.			39.3	Supplying, installation, Testing and commissioning of following capacity 24 port Layer 2 indoor Network Switch having features and specifications etc. as Switching capacity of min. 128Gbps and packet forwarding rate of 95Mpps or higher, 16K MAC table. Console Port, USB port, Stacking support of min. 4 units per stack. Internal all Gigabit Ethernet ports and, on all GE RJ, -45 access ports. Certifications: FCC, CE marked, UL/EN, RoHS and relevant MTCTE(TEC)/BIS compliance/certification as applicable, etc. complete as required.		
39.4	Supplying, installation, Testing and commissioning of following capacity 24 port Layer 3 Network Switch having			39.4	Supplying, installation, Testing and commissioning of following capacity 24 port Layer 3 Network Switch having		

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	features and specifications etc. as16K MAC table. Console Port, USB port, Internal AC Power supply 8 units per stack. 48K Mac address, IPv6 Neighbour Discovery (ND), BGP, ISIS, MPLS, VRRP v2, OSPFv2/v3, PBR, Route Redistribution, RIPv1/v2/ng, IP Helper all L3 Protocols protection on all Gigabit Ethernet ports and on all GE RJ-45 access ports. Certifications: UL, CE, FCC, RoHS, MTCTE, OEM/Product must be on Trusted Telecom Portal of Department of Telecommunication, Government of India etc. complete as required.				features and specifications etc. as 16K MAC table. Console Port, USB port, Dual AC Power supply 8 units per stack. 32K Mac address,IPv6 Neighbour Discovery (ND), BGP/ISIS/ MPLS/VRRP v2/OSPFv2/v3 , PBR, Route Redistribution, RIPv1/v2/ng, IP Helper all L3 Protocols protection on all Gigabit Ethernet ports and on all GE RJ-45 access ports. Certifications: FCC, CE marked, UL/EN, RoHS and relevant MTCTE(TEC)/BIS compliance/certification as applicable , etc. complete as required.		
39.5	Supplying, installation, Testing and commissioning of 10 Giga Bandwidth Data Centre Network Switch of 48 port Layer 3 having features and specifications etc. as 6x 100GbE QSFP28, RPS, with Console Port, Management Port and 1 x USB 2.0 Type A port, The switch must provide a switching capacity of no less than 2.16 Tbps and a forwarding rate of at least 1600 Mpps,Support flexible routing domains and secure inter-segment traffic flow. Certifications: CE, FCC, MTCTE, OEM/Product must be on Trusted Telecom Portal of Department of Telecommunication, Government of India etc. complete as required.			39.5	Supplying, installation, Testing and commissioning of 10 Giga Bandwidth Data Centre Network Switch of 48 port Layer 3 having features and specifications etc. as+, 4x 100GbE QSFP28 , RPS, with Console Port, Management Port and 1 x USB 2.0 Type A port, The switch must provide a switching capacity of no less than 1.76 Tbps and a forwarding rate of at least 1600 Mpps, Support flexible routing domains and secure inter-segment traffic flow. Certifications: FCC, CE marked, UL/EN, RoHS and relevant MTCTE(TEC)/BIS compliance/certification as applicable etc. complete as required.		
39.7	Supplying, Installation, Testing and commissioning of indoor Wireless Access Point for Low Density use having features			39.7	Supplying, Installation, Testing and commissioning of indoor Wireless Access Point for Low Density use having features		

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	and specifications etc. as 1G LAN POE Port, factory reset, Works as Access Point, WDS, WDS with AP, Wireless Client, Web (HTTP), Secure Socket Layer (SSL),and MAC/ IP ACL for networks, Certifications: MTCTE, CE, FCC. Should also work as Standalone and must be Compatible with S/W & H/W Controller with additional features like - Real-Time Monitoring and Alerts, and Bandwidth Optimization, Multi-SSID and Captive Portal Authentication.OEM/Product must be on Trusted Telecom Portal of Department of Telecommunication, Government of India etc. complete as required.				and specifications etc. as 1G LAN POE Port with console management function factory reset,, Works as Access Point, WDS with AP/ Wireless Client/ MESH Web (HTTP), Secure Socket Layer (SSL),, and MAC/ IP ACL for networks, Certifications: FCC, CE marked, UL/EN, RoHS and relevant MTCTE(TEC)/BIS compliance/certification as applicable , Should also work as Standalone and must be Compatible with S/W & H/W Controller with additional features like - Real-Time Monitoring and Alerts, and Bandwidth Optimization, Multi-SSID and Captive Portal Authentication ,etc. complete as required.		
39.8	Supplying, Installation, Testing and commissioning of indoor Wireless Access Point for High density use having features and specifications etc. as WIFI 6 Certified, 1 x RJ45 console port, MG 2.5G LAN POE Port, factory reset, WPA/WPA2/WPA3™ Personal/Enterprise, WEP 64/128-bit, SSID broadcast disable, MAC address Works as Access Point, WDS, WDS with AP, Wireless Client ., Web (HTTP), Secure Socket Layer (SSL), Traffic and MAC/ IP ACL for networks, Certifications: MTCTE, CE, FCC. Works as Standalone, Compatible with S/W & H/W Access Control, Auto RF Management and Bandwidth Optimization, Multi-SSID and Captive			39.8	Supplying, Installation, Testing and commissioning of indoor Wireless Access Point for High density use having features and specifications etc. asWIFI 6 Certified/ Wi-Fi Alliance , MG 2.5G LAN POE Port, having console management function , factory reset, WPA/WPA2/WPA3™ Personal/Enterprise, WEP 64/128-bit, SSID broadcast disable, MAC address, Works as Access Point, WDS with AP/ Wireless Client/ MESH , Web (HTTP), Secure Socket Layer (SSL), Traffic, and MAC/ IP ACL for networks, Certifications: FCC, CE marked, UL/EN, RoHS and relevant MTCTE(TEC)/BIS compliance/certification as applicable . Works as Standalone, Compatible with S/W & H/W Access Control, Auto RF		

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	Portal Authentication. OEM/Product must be on Trusted Telecom Portal of Department of Telecommunication, Government of India etc. complete as required.				Management and Bandwidth Optimization, Multi-SSID and Captive Portal Authentication, etc. complete as required.		
39.9	Supplying, Installation, Testing and commissioning of Outdoor Wireless Access Point having features and specifications etc. as mentioned here under - WIFI 6 Certified, 1 x RJ45 console port, MG 2.5G LAN POE Port, factory reset, 4 x internal antennas..... Auto Channel, Works as Access Point, WDS, WDS with AP, Wireless Client, Web (HTTP), Secure Socket Layer (SSL), and MAC/ IP ACL for networks, IP68 water/dustproof standard, 6KV Surge Certification, EN50121-1 & EN50121-4 for Wireless Application. Certifications: MTCTE, CE, FCC. Works as Standalone, Compatible with S/W & H/Wand Bandwidth Optimization, Multi-SSID and Captive Portal Authentication.OEM/Product must be on Trusted Telecom Portal of Department of Telecommunication, Government of India etc. completed as required.			39.9	Supplying, Installation, Testing and commissioning of Outdoor Wireless Access Point having features and specifications etc. as mentioned here under - WIFI 6 Certified/Wi-Fi alliance, MG 1G LAN POE Port, having console management function. factory reset, 4 x internal antennas, Auto Channel, Works as Access Point, WDS with AP/ Wireless Client/ MESH/ Web (HTTP), Secure Socket Layer (SSL),, and MAC/ IP ACL for networks, IP67 water/dustproof standard, 6KV Surge Certification, EN50121-1 & EN50121-4 for Wireless Application. Certifications: FCC, CE marked, UL/EN, RoHS and relevant MTCTE(TEC)/BIS compliance/certification as applicable. Works as Standalone, Compatible with S/W & H/W and Bandwidth Optimization, Multi-SSID and Captive Portal Authentication, etc. complete with required hardware/software controller etc. to make AP functional as required.		
39.10	Supplying, Installation, Testing and commissioning of indoor Wireless Controller having features and specifications etc. as mentioned here under- The network controller shall be a dedicated hardware appliance designed			39.10	Deleted		

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	for Telecom Portal of Department of Telecommunication, Government of India etc. complete as required.						
39.14	Supplying, Installation, Testing and commissioning of CAT6 Copper Information Outlet (IO) with face plate of color as per site requirement, should have ETL/UL verification program certificate for compliance with ANSI/TIA-568.2-D. All copper Cable and Components should be from same OEM to maintain compatibility and interoperability.	Each	212	39.14	Supplying, Installation, Testing and commissioning of CAT6 Copper Information Outlet (IO) with face plate of colour as per site requirement, should have ETL/UL verification program certificate for compliance with ANSI/TIA-568.2-D.	Each	151
39.18	Supplying, drawing, Installation, Testing and commissioning of Cat6A UTP 4 pair, 23 AWG solid copper cable in existing conduit/ on surface,The outer Cable Diameter should be 7.5 + 2 mm. Cable should have been tested and verified by UL/ ETL.			39.18	Supplying, drawing, Installation, Testing and commissioning of Cat6A UTP 4 pair, 23 AWG solid copper cable in existing conduit/ on surface,The outer Cable Diameter should be 7.5 + 2 mm. Cable should have been tested and verified by UL/ ETL.		
39.18.1	1 Run of cable	Meter	74	39.18.1	1 Run of cable	Meter	62
39.18.2	2 Run of cable	Meter	124	39.18.2	2 Run of cable	Meter	99
39.18.3	3 Run of cable	Meter	174	39.18.3	3 Run of cable	Meter	137
39.18.4	4 Run of cable	Meter	224	39.18.4	4 Run of cable	Meter	174
39.22	Supplying and fixing Patch Cord of Optical Fiber Multi Mode or Single Mode LC to LC Fiber Duplex Mechanical specification Apex Offset < 50 µm, Fiber Height + 100 nm, Repeatability < 0.2 db, Working ambient Temperature – 5 °C			39.22	Supplying and fixing Patch Cord of Optical Fiber Multi Mode or Single Mode LC to LC Fiber Duplex Mechanical specification Apex Offset ≤ 50 µm, Fiber Height ± 100 nm, Repeatability ≤ 0.2 dB, Working ambient Temperature – 5 °C		

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	to +50 °C, Storage Type -- LC-LC Duplex etc complete as required.				to +50 °C, Storage, Type -- LC-LC Duplex etc complete as required.		
CHAPTER -40 CCTV CAMERA							
40.1	Supplying Installation Testing and Commissioning of 2 MP IP IR Dome Camera 1) Wide Dynamic Range:- WDR (120db or more) 2) Power Requirement: 12VDC/24 VAC/PoE (802.3af)/ePoE....			40.1	Supplying Installation Testing and Commissioning of 2 MP IP IR Dome Camera 1) Wide Dynamic Range:- WDR (120dB or more)..... 2) Power Requirement: 12V DC /24V DC/PoE (802.3af)/ePoE.....		
40.2	Supplying Installation Testing and Commissioning of 2MP Fixed Lens IP IR Outdoor Bullet Camera 4) Wide Dynamic Range:- WDR (120db or more)..... 16)Power Requirement: 12VDC/24 VAC/PoE (802.3af)/ePoE.....			40.2	Supplying Installation Testing and Commissioning of 2MP Fixed Lens IP IR Outdoor Bullet Camera 4) Wide Dynamic Range:- WDR (120dB or more)..... 16)Power Requirement: 12V DC/24V DC/PoE (802.3af)/ePoE.....		
40.8	8 MP IP IR Outdoor Bullet Camera Supplying Installation Testing and Commissioning of 8 MP IP IR Outdoor Bullet Camera 9) Video Compression (Minimum): H.265 or better, H.264, Audio: - G.711U/A, G.711Mu, G.726, AAC, G.723.....			40.8	8 MP IP IR Outdoor Bullet Camera Supplying Installation Testing and Commissioning of 8 MP IP IR Outdoor Bullet Camera..... 9) Video Compression (Minimum): H.265 or better, Audio: - G.711U/A, G.711Mu, G.726, AAC, G.723.....		
40.9	PTZ (Pan. Tilt and Zoom) IP IR Camera Supplying Installation Testing and Commissioning of PTZ (Pan, Tilt and Zoom) IP IR Camera 9) Day & Night: True Day & Night High Performance Mechanical IR cut filter			40.9	PTZ (Pan. Tilt and Zoom) IP IR Camera Supplying Installation Testing and Commissioning of PTZ (Pan, Tilt and Zoom) IP IR Camera 9) Day & Night: True Day & Night High Performance Mechanical IR cut filter		

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	with auto switch, IR Source- Inbuilt IR LED's with effective distance. The camera should have IR LED's and cover distance up to 300 meter or above-----				with auto switch, IR Source- Inbuilt IR LED's with effective distance. The camera should have IR LED's and cover distance 150 meter or above.....		
40.9.3	5MP IP IR motorized PTZ @25/30fps or better camera, Triple streaming, configurable on resolution:- Main stream: 5MP@25/30 fps Sub streams:1080p@25/30 fps, varifocal lens 3.95mm (±5mm) ~ 177.75mm (±5mm) or better with Automatic & manual Focus Adjustment provisions, 45x Optical zoom and 16x Digital zoom with angle of view H: 65.7°-1.9°V: 39.4°-1.1°D: 73.1°-2.1, PAN Travel: Pan: 0° ~ 360° endless, Manual Pan: 260° /s, Preset : 300° /s, Tilt Travel: Tilt: -20° ~ 90°, auto flip 180°, Manual Tilt: 120° /s, Preset : 200° /s			40.9.3	5MP IP IR motorized PTZ @25/30fps or better camera, Triple streaming, configurable on resolution:- Main stream: 5MP@25/30 fps Sub streams: 1080p@25 / 30 fps, varifocal lens 3.95 mm (±5mm) ~ 177.75mm (±5mm) or better with Automatic & manual Focus Adjustment provisions, 32x Optical zoom and 12x Digital zoom with angle of view H: 65.7°-1.9°V: 39.4°-1.1°D: 73.1°-2.1, PAN Travel: Pan: 0° ~ 360° endless, Manual Pan: 260° /s, Preset : 300° /s, Tilt Travel: Tilt: -20° ~ 90°, auto flip 180°, Manual Tilt: 120° /s, Preset : 200° /s		
40.10	Supplying Installation Testing and Commissioning of following Channel Network Video Recorder (NVR) with camera licenses to record for all channels having specifications and features etc as mentioned below : 5) Storage: It should support minimum 2 SATA Slots with 20TB capacity/ Slot.			40.10	Supplying Installation Testing and Commissioning of following Channel Network Video Recorder (NVR) with camera licenses to record for all channels having specifications and features etc as mentioned below : 5) Storage: It should support minimum 2 SATA Slots with 16TB capacity/ Slot.		
40.11	Supplying Installation Testing and Commissioning of following Channel Network Video Recorder (NVR) with camera licenses to record for all channels having specifications and features etc as mentioned below :			40.11	Supplying Installation Testing and Commissioning of following Channel Network Video Recorder (NVR) with camera licenses to record for all channels having specifications and features etc as mentioned below:		

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	5) Storage: It should support minimum 8 SATA Slots with 20TB capacity/ Slot and RAID support of RAID 0/1/5/6/10.				5) Storage: It should support minimum 8 SATA Slots with 16 TB capacity/ Slot and RAID support of RAID 0/1/5/6/10. (4 SATA (32 Channel) & 8 SATA Slot for 64 Channel)		
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Appendix –I Basic rate of labour & hire charges

	1020 Electronic Technician				1021 Technician		
	No Provision				Note:- 1) Labour rates are exclusive of contractor's profit and overheads and are inclusive of days for weekly day of rest. 2) Hire charges: These basic charges include cost of services of operating staff and supply of lubricating oil and diesel also etc.		

Appendix –II Basic rate of Material

5246	1 Run of cable	Meter	35	5246	1 Run of cable	Meter	26.25
5247	2 Run of cable	Meter	70	5247	2 Run of cable	Meter	52.50
5248	3 Run of cable	Meter	105	5248	3 Run of cable	Meter	78.75
5249	4 Run of cable	Meter	140	5249	4 Run of cable	Meter	105.00

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