

MAKLUMAT SPESIFIKASI KERJA (SKOP TERPERINCI)

Tajuk Projek : KERJA MEMBAIKPULIH, MENAIKTARAF SERTA KERJA -KERJA YANG BERKAITAN DI BANGUNAN BLOK A UNTUK UNIVERSITI TEKNOLOGI MARA DI UiTM KAMPUS JALAN OTHMAN, PETALING JAYA, SELANGOR DARUL EHSAN

Keterangan : 4.1 - KERJA ELEKTRIKAL

BIL	KETERANGAN	UNIT	HARGA (RM)
	ELECTRICAL NOTE :		
	All electrical installation, fittings, cables, protection devices,wiring accessories, LV Board and others should comply with Electrical Material Approval List (JMAL) & Specification For Low Voltage Internal Electrical Installation (LS-1), Low Voltage Underground Cable (LS-3) and Lightning Protection System (LS-9)		
	EXISTING		
1	Existing items		
1.1	To isolate and dismantle the existing following items:- i) Distribution Board (DB's) and all outgoing cables (if any) ii) M.S Trunking, G.I Conduit and all accessories (if any) iii) Electrical fitting's (if any)	LS	
2	BLOK A LEVEL 1		
	INTERNAL LOW TENSION ELECTRICAL INSTALLATIONS		
2.1	Electrical Board		
	To supply, install, testing and commissioning of the followings Electrical boards complete with cable termination, Labelling/Schematic/Number for all wirings and all other necessary accessories and associated works as per Specification and/or Tender Drawings		
2.1.1	New 600A TPN Wall Mounted Sub Switch Board (MSSB BLOCK A) c/w :- i. Incoming cable terminating box ii. 0 - 600v Voltmeter and Selector switch iii. Ammeter with M.D indicator c/w C.T's iv. Indicating light (Red, Yellow and Blue) v. Earth Fault/ Over Current (EF/OC) vii.Busbar and all internal wiring vii.The following MCCBs as incoming / outgoing viii.Current Transformer ix. Rubber Mat 1/4 " ix. Calibration all relay	L/S	
2.1.2	New 150A TPN Wall Mounted Sub Switch Board (SSB LEVEL 1) c/w :- i. Incoming cable terminating box ii. 0 - 600v Voltmeter and Selector switch iii. Ammeter with M.D indicator c/w C.T's iv. Indicating light (Red, Yellow and Blue) v. Earth Leakage Relay (ELR) vii.Busbar and all internal wiring vii.The following MCCBs as incoming / outgoing viii.Current Transformer ix. Rubber Mat 1/4 " ix. Calibration all relay	L/S	

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Keterangan : 4.1 - KERJA ELEKTRIKAL

BIL	KETERANGAN	UNIT	HARGA (RM)
2.1.3	New 60A TPN Wall Mounted Distribution Board (DB-1-L/P/AC LEVEL 1) c/w :- i. Internal wiring ii. Busbar Compartment iii.Moulded Case Circuit Breaker (MCCB) iv.Residual Current Circuit Breaker (RCCB) v. Miniature Circuir Breaker (MCB)	L/S	
2.1.4	New 60A TPN Wall Mounted Distribution Board (DB-2-L/P/OFFICE LEVEL 1) c/w :- i. Internal wiring ii. Busbar Compartment iii.Moulded Case Circuit Breaker (MCCB) iv.Residual Current Circuit Breaker (RCCB) v. Miniature Circuir Breaker (MCB)	L/S	
2.1.5	New 60A TPN Wall Mounted Distribution Board (DB-3-AC/OFFICE LEVEL 1) c/w :- i. Internal wiring ii. Busbar Compartment iii.Moulded Case Circuit Breaker (MCCB) iv.Residual Current Circuit Breaker (RCCB) v. Miniature Circuir Breaker (MCB)	L/S	
2.1.6	New 40A SPN Wall Mounted Distribution Board (DB 4-L/P CORRIDOR & STAIRCASE LEVEL 1) c/w :- i. Internal wiring ii. Busbar Compartment iii.Moulded Case Circuit Breaker (MCCB) iv.Residual Current Circuit Breaker (RCCB) v. Miniature Circuir Breaker (MCB)	L/S	
2.1.7	New 40A TPN Weatherproof Control Panel (CP-6/L) c/w :- i. Internal wiring ii. Weatherproof iii.Moulded Case Circuit Breaker (MCCB) iv.Residual Current Circuit Breaker (RCCB) v. Miniature Circuir Breaker (MCB) vi.Contactactor vii.Timer Switch viii.Concrete Base x. Earthing Concrete Chamber c/w cable/copper tape, exothermic welding,copper rod	L/S	
2.1.8	New Termination Board at incoming from underground cable (termination between existing 2 x 4c x 185mm ² XLPE/SWA/PVC cable and new 8 x 1c x 185mm ² XLPE/PVC + 2 x 1c x 120mm ² PVC ECC) c/w :- i. Internal termination ii. Busbar Compartment iii.Cable Gland	L/S	
2.2	Main Cabling and Sub Main Cabling		

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Keterangan : 4.1 - KERJA ELEKTRIKAL

BIL	KETERANGAN	UNIT	HARGA (RM)
	To supply, lay and install the following power cable complete with continuous protection conductor, cable lug and gland, cable bracket and support, cable trunking, riser, tray, conduit inclusive of earth wire and termination at both end and all other necessary accessories as per Specification and/or Drawings (The actual cable length must be measured on site by the Contractor)		
2.2.1	From New Termination Board using 8 x 1c 185 mm ² XLPE/PVC Cu. Cable + 2 x 120 mm ² PVC Cu. E.C.C laid on Hot Dipped Galvanise Cable Tray/ Cable Ladder complete with necessary accessories to: a)New 600A Main Sub Switch Board at Electrical Room Level 1 (approximate : 12 meter)	L/S	
2.2.2	From New 600A Main Sub Switch Board(MSSB) using 4 x 1c x 50mm ² PVC Cu. Cable + 1 x 1c x 25mm ² Cu. E.C.C laid in Hot Dipped Galvanised Trunking complete with necessary accessories to: a)New 150A Sub Switch Board (SSB) Level 1 (Electrical Room)	L/S	
2.2.3	From New 600A Main Sub Switch Board(MSSB) using 4 x 1c x 35mm ² PVC Cu. Cable + 1 x 1c x 25mm ² Cu. E.C.C laid in Hot Dipped Galvanised Trunking complete with necessary accessories to: a)New 100A Sub Switch Board (SSB) Level 2 b)New 100A Sub Switch Board (SSB) Level 3 c)New 100A Sub Switch Board (SSB) Level 4	L/S	
2.2.4	From New 150A Sub Switch Board (SSB) using 4 x 1c x 25mm ² PVC Cu. Cable + 1 x 1c x 25mm ² Cu. E.C.C laid in Hot Dipped Galvanised Trunking complete with necessary accessories to: a)New 60A DB-1-L/P/AC-Level 1	L/S	
2.2.5	From New 150A Sub Switch Board (SSB) using 4 x 1c x 25mm ² PVC Cu. Cable + 1 x 1c x 25mm ² Cu. E.C.C laid in Hot Dipped Galvanised Trunking complete with necessary accessories to: a)New 60A DB-2-L/P/Office-Level 1	L/S	
2.2.6	From New 150A Sub Switch Board (SSB) using 4 x 1c x 25mm ² PVC Cu. Cable + 1 x 1c x 25mm ² Cu. E.C.C laid in Hot Dipped Galvanised Trunking complete with necessary accessories to: a)New 60A DB-3-AC/Office-Level 1	L/S	
2.2.7	From New 150A Sub Switch Board (SSB) using 2 x 1c x 6mm ² PVC Cu. Cable + 1 x 1c x 6mm ² Cu. E.C.C laid in Hot Dipped Galvanised Trunking complete with necessary accessories to: a)New 40A DB-4-L/P Corridor & Staircase-Level 1	L/S	
2.2.8	From New 150A Sub Switch Board (SSB) using 2 x 1c x 6mm ² PVC Cu. Cable + 1 x 1c x 6mm ² Cu. E.C.C laid in Hot Dipped Galvanised Trunking complete with necessary accessories to: a)Existing DB-5 L/P/AC Polis Bantuan	L/S	

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Keterangan : 4.1 - KERJA ELEKTRIKAL

BIL	KETERANGAN	UNIT	HARGA (RM)
2.2.9	From New 150A Sub Switch Board (SSB) using 4 x 1c x 10mm ² PVC Cu. Cable + 1 x 1c x 10mm ² Cu. E.C.C and 1 x 4c x 10mm ² PVC/SWA/PVC Cu Cable + E.C.C laid in Hot Dipped Galvanised Trunking/ Underground thru junction box complete with necessary accessories to: a)New CP-6 L-Outdoor Control Panel	L/S	
2.2.10	From New Weatherproof Control Panel using 1 x 4c x 6mm ² PVC/SWA/PVC Cu Cable + E.C.C laid Underground in HDPE corrugated pipe complete with necessary accessories (pole to pole) to: a)Lighting Pole 1, 2, 3, 4, 5, 6, 7, 8	L/S	
2.3	Light fittings, Switch Outlets and Final Sub-Circuit Wiring		
	To supply and install the following Sub-circuit wiring for lighting, switch socket outlets etc. complete with tag no., accessories as per Specification and/or Drawings		
2.3.1	To wire up lighting points using 2 x 1.5mm ² PVC Cu. Cable in Hot Dipped Galvanised Trunking/ G.I. conduit/ flexible G.I Conduit complete with earth wire, back box, switches and necessary accessories.	L/S	
2.3.2	To wire up lighting points for suspension linear using 2 x 1.5mm ² PVC Cu. Cable in Hot Dipped Galvanised Trunking/ G.I. conduit/ flexible G.I Conduit complete with earth wire, back box, switches and necessary accessories. - Office Area, Officer Room & Meeting Room	L/S	
2.3.3	To wire up lighting points for track light using 2 x 1.5mm ² PVC Cu. Cable in Hot Dipped Galvanised Trunking/ G.I. conduit/ flexible G.I Conduit complete with earth wire, back box, switches and necessary accessories. - Gallery, Meeting Room	L/S	
2.3.4	To wire up lighting points using 2 x 1.5mm ² PVC Cu. Cable in Hot Dipped Galvanised Trunking/ G.I. conduit/ flexible G.I Conduit complete with earth wire, back box, timer switch, contactor, bypass switch and necessary accessories. - Corridor	L/S	
2.3.5	To wire up lighting points using 2 x 1.5mm ² PVC Cu. Cable in Hot Dipped Galvanised Trunking/ G.I. conduit/ flexible G.I Conduit complete with earth wire, back box, 2 way switches and necessary accessories. - Staircase B	L/S	
2.3.6	To wire-up all 1 x 13A weatherproof switch socket outlets using 2 x 2.5mm ² PVC Cu. cable in Hot Dipped Galvanised Trunking/ G.I conduit complete with earth wires, back box, weatherproof socket and necessary accessories.	L/S	
2.3.7	To wire-up all 2 x 13A switch socket outlets using 2 x 2.5mm ² PVC Cu. cable in Hot Dipped Galvanised Trunking/ G.I conduit complete with earth wires, back box, socket outlet and necessary accessories.(Ring & radial circuit)	L/S	

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Keterangan : 4.1 - KERJA ELEKTRIKAL

BIL	KETERANGAN	UNIT	HARGA (RM)
2.3.8	To wire-up all self contained emergency lighting point using 2 x 1.5mm ² PVC Cu. cable in Hot Dipped Galvanised Trunking/ G.I conduit complete with earth wire, and all other necessary accessories.	L/S	
2.3.9	To wire-up all self contained KELUAR Sign light point using 2 x 1.5mm ² PVC Cu. cable in Hot Dipped Galvanised Trunking/ G.I conduit complete with earth wire, and all other necessary accessories.	L/S	
2.3.10	To wired up all HDMI cable from HDMI Port at floor service box to TV Screen point complete with cable termination end to end (male and female), HDMI face plate and all other necessary accessories. - Meeting Room	L/S	
	To supply and install each of the following types of electrical fittings complete with tubes, bulb, brackets (if any) and all other necessary accessories as per Specification and/or Drawings		
2.3.11	New Surface Round LED Downlight c/w :- - Tube : Tridonic COB LED Module - Driver : Tridonic LED driver - Colour temperature (K) : 4000 - Lumen (lm) : min 4900 - LED Power (w) : min 40 - Beam Angle (°) : min 60 - Lifetime (hours) : min 50,000 - Housing : Aluminium Alloy - Diffuser : Polycarbonate (PC) Optical Lens - Hanging : Suspension Wire - Manufacturer Warranty : 3 years	L/S	
2.3.12	New Suspended Rectangular Linear Fitting c/w :- - Tube : 1200mm T8 LED - Colour temperature (K) : 4000 - 6500 - Lumen (lm) : min 1800 - LED Power (w) : max 18 - Beam Angle (°) : min 120 - Lifetime (hours) : min 30,000 - Lamp cap : G13 - Colour finishes : Black/ Grey/ White - Housing : Metal/ Aluminium - Hanging : Suspension wire - Diffuser : Frosted Acrylic/ Polycarbonate	L/S	
2.3.13	New T8 LED Slim Bare Battern Fitting c/w :- - Tube : 1200mm T8 LED - Colour temperature (K) : 4000 - 6500 - Lumen (lm) : min 1800 - LED Power (w) : max 18 - Beam Angle (°) : min 120 - Lifetime (hours) : min 30,000 - Lamp cap : G13	L/S	

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Keterangan : 4.1 - KERJA ELEKTRIKAL

BIL	KETERANGAN	UNIT	HARGA (RM)
2.3.14	New T8 LED Suspended Slim Bare Battern Fitting c/w :- - Tube : 1200mm T8 LED - Colour temperature (K) : 4000 - 6500 - Lumen (lm) : min 1800 - LED Power (w) : max 18 - Beam Angle (°) : min 120 - Lifetime (hours) : min 30,000 - Lamp cap : G13	L/S	
2.3.15	New T8 LED Surface Square Diakon Diffuser Fitting c/w :- - Tube : 1200mm T8 LED - Colour temperature (K) : 4000 - 6500 - Lumen (lm) : min 1800 - LED Power (w) : max 18 - Beam Angle (°) : min 120 - Lifetime (hours) : min 30,000 - Lamp cap : G13	L/S	
2.3.16	New Recessed Mirror Louvre Fitting (600mm x 1200mm) c/w :- - Tube : 1200mm T8 LED - Colour temperature (K) : 4000 - 6500 - Lumen (lm) : min 1800 - LED Power (w) : max 18 - Beam Angle (°) : min 120 - Lifetime (hours) : min 30,000 - Lamp cap : G13	L/S	
2.3.17	New LED Track Spotlight c/w :- - Tube : Tridonic LED COB - Driver - Tridonic LED driver - Colour temperature (K) : 3000 - 4000 - Lumen (lm) : min 2400 - LED Power (w) : max 20 - Beam Angle (°) : max 60 - Lifetime (hours) : min 50,000 - Housing : Die Casted from ADC 12 Aluminium Alloy - Diffuser : Polycarbopnate (PC) Track Adaptor - Manufacturer Warranty : 3 years	L/S	
2.3.18	New Track Rail single circuit 1 meter/ 2 meter/ 3 meter c/w track link (I Joint/ L Joint/ L Joint) and necessary accessories.	L/S	
2.3.19	New 12V LED surface type self-contained Emergency Light c/w rechargeable battery operation of minimum 3 hours.(Approved by BOMBA)	L/S	
2.3.20	New Slim line design 'KELUAR' sign c/w Super Bright LED and rechargeable battery operation of minimum 3 hours.(Approved by BOMBA)	L/S	
3	TELECOMMUNICATION SYSTEM		
3.1	To wire-up all internal telephone points from new DP using 2 pair 4 wire in uPVC trunking/Conduit complete with telephone socket 4 pin wall mounted and necessary accessories.	L/S	

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Keterangan : 4.1 - KERJA ELEKTRIKAL

BIL	KETERANGAN	UNIT	HARGA (RM)
3.2	To supply, install door access system (aproximate 2 doors) c/w:- - Controller with Mifare Reader In and Out - EM Lock : min 600Lbs with LED - Power Supply - 7Ah Backup battery - Emergency Break Glass - Overriding Key - Relay Board - Door Bracket - Magnetic Contact - UTP Cabling - Indoor Data Cable in GI Pipe	L/S	
4	BLOK A LEVEL 2		
	INTERNAL LOW TENSION ELECTRICAL INSTALLATIONS		
4.1	Electrical Board		
	To supply, install, testing and commissioning of the followings Electrical boards complete with cable termination, Labelling/Schematic/Number for all wirings and all other necessary accessories, contactor & timer (if any) and associated works as per Specification and/or Tender Drawings		
4.1.1	New 100A TPN Wall Mounted Sub Switch Board (SSB LEVEL 2) c/w :- i. Incoming cable terminating box ii. 0 - 600v Voltmeter and Selector switch iii. Ammeter with M.D indicator c/w C.T's iv. Indicating light (Red, Yellow and Blue) v. Earth Leakage Relay (ELR) vii. Busbar and all internal wiring vii. The following MCCBs as incoming / outgoing viii. Current Transformer ix. Rubber Mat 1/4 " iix. Calibration all relay	L/S	
4.1.2	New 60A TPN Wall Mounted Distribution Board (DB-1-L/P/LEVEL 2) c/w :- i. Internal wiring ii. Busbar Compartment iii. Moulded Case Circuit Breaker (MCCB) iv. Residual Current Circuit Breaker (RCCB) v. Miniature Circuit Breaker (MCB)	L/S	
4.1.3	New 60A TPN Wall Mounted Distribution Board (DB-2-L/P/LEVEL 2) c/w :- i. Internal wiring ii. Busbar Compartment iii. Moulded Case Circuit Breaker (MCCB) iv. Residual Current Circuit Breaker (RCCB) v. Miniature Circuit Breaker (MCB)	L/S	

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Keterangan : 4.1 - KERJA ELEKTRIKAL

BIL	KETERANGAN	UNIT	HARGA (RM)
4.1.4	New 40A TPN Wall Mounted Distribution Board (DB-3-AC(FCU)/LEVEL 2) c/w :- i. Internal wiring ii. Busbar Compartment iii. Moulded Case Circuit Breaker (MCCB) iv. Residual Current Circuit Breaker (RCCB) v. Miniature Circuit Breaker (MCB)	L/S	
4.2	Main Cabling and Sub Main Cabling		
	To supply, lay and install the following power cable complete with continuous protection conductor, cable lug and gland, cable bracket and support, cable trunking, riser, tray, conduit inclusive of earth wire and termination at both end and all other necessary accessories as per Specification and/or Drawings (The actual cable length must be measured on site by the Contractor)		
4.2.1	From New 100A Sub Switch Board (SSB) using 4 x 1c x 25mm ² PVC Cu. Cable + 1 x 1c x 25mm ² Cu. E.C.C laid in Hot Dipped Galvanised Trunking complete with necessary accessories to: a) New 60A DB-1-L/P-Level 2 b) New 60A DB-2-L/P-Level 2	L/S	
4.2.2	From New 100A Sub Switch Board (SSB) using 4 x 1c x 16mm ² PVC Cu. Cable + 1 x 1c x 16mm ² Cu. E.C.C laid in Hot Dipped Galvanised Trunking complete with necessary accessories to: a) New 40A DB-3-AC(FCU)-Level 2	L/S	
4.3	Light fittings, Switch Outlets and Final Sub-Circuit Wiring		
	To supply and install the following Sub-circuit wiring for lighting, switch socket outlets etc. complete with tag no., accessories as per Specification and/or Drawings		
4.3.1	To wire up lighting points using 2 x 1.5mm ² PVC Cu. Cable in Hot Dipped Galvanised Trunking/ G.I. conduit/ flexible G.I Conduit complete with earth wire, back box, switches and necessary accessories.	L/S	
4.3.2	To wire up lighting points for suspension linear using 2 x 1.5mm ² PVC Cu. Cable in Hot Dipped Galvanised Trunking/ G.I. conduit/ flexible G.I Conduit complete with earth wire, back box, switches and necessary accessories. - Black Box, White Box & Meeting Room	L/S	
4.3.3	To wire up lighting points for track light using 2 x 1.5mm ² PVC Cu. Cable in Hot Dipped Galvanised Trunking/ G.I. conduit/ flexible G.I Conduit complete with earth wire, back box, switches and necessary accessories - Black Box, White Box & Meeting Room	L/S	
4.3.4	To wire up lighting points using 2 x 1.5mm ² PVC Cu. Cable in Hot Dipped Galvanised Trunking/ G.I. conduit/ flexible G.I Conduit complete with earth wire, back box, 2 way switch and necessary accessories. - Corridor	L/S	

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Keterangan : 4.1 - KERJA ELEKTRIKAL

BIL	KETERANGAN	UNIT	HARGA (RM)
4.3.5	To wire-up all 2 x 13A switch socket outlets using 2 x 2.5mm ² PVC Cu. cable in Hot Dipped Galvanised Trunking/ G.I conduit complete with earth wires, back box, decorative socket and necessary accessories.(Ring & radial circuit)	L/S	
4.3.6	To wire-up all self contained emergency lighting point using 2 x 1.5mm ² PVC Cu. cable in Hot Dipped Galvanised Trunking/ G.I conduit complete with earth wire, and all other necessary accessories.	L/S	
4.3.7	To wire-up all self contained KELUAR Sign light point using 2 x 1.5mm ² PVC Cu. cable in Hot Dipped Galvanised Trunking/ G.I conduit complete with earth wire, and all other necessary accessories.	L/S	
4.3.8	To wired up all HDMI cable from HDMI Port at wall to TV Screen point/ Projector point at ceiling complete with cable termination end to end (male and female), HDMI face plate and all other necessary accessories. - Meeting Room, Black Box	L/S	
	To supply and install each of the following types of electrical fittings complete with tubes, bulb, brackets (if any) and all other necessary accessories as per Specification and/or Drawings		
4.3.9	New Suspended Rectangular Linear Fitting c/w :- - Tube : 1200mm T8 LED - Colour temperature (K) : 4000 - 6500 - Lumen (lm) : min 1800 - LED Power (w) : max 18 - Beam Angle (°) : min 120 - Lifetime (hours) : min 30,000 - Lamp cap : G13 - Colour finishes : Black/ Grey/ White - Housing : Metal/ Aluminium - Hanging : Suspension wire - Diffuser frosted : Acrylic/ polycarbonate	L/S	
4.3.10	New T8 LED Slim Bare Battern Fitting c/w :- - Tube : 1200mm T8 LED - Colour temperature (K) : 4000 - 6500 - Lumen (lm) : min 1800 - LED Power (w) : max 18 - Beam Angle (°) : min 120 - Lifetime (hours) : min 30,000 - Lamp cap : G13	L/S	
4.3.11	New T8 LED Suspended Slim Bare Battern Fitting c/w :- - Tube : 1200mm T8 LED - Colour temperature (K) : 4000 - 6500 - Lumen (lm) : min 1800 - LED Power (w) : max 18 - Beam Angle (°) : min 120 - Lifetime (hours) : min 30,000 - Lamp cap : G13	L/S	

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Keterangan : 4.1 - KERJA ELEKTRIKAL

BIL	KETERANGAN	UNIT	HARGA (RM)
4.3.12	New T8 LED Surface Square Diakon Diffuser Fitting c/w :- - Tube : 1200mm T8 LED - Colour temperature (K) : 4000 - 6500 - Lumen (lm) : min 1800 - LED Power (w) : max 18 - Beam Angle (°) : min 120 - Lifetime (hours) : min 30,000 - Lamp cap : G13	L/S	
4.3.13	New LED Track Spotlight c/w :- - Tube : Tridonic LED COB LED - Colour temperature (K) : 3000 - 4000 - Lumen (lm) : 2400 - 4000 - LED Power (w) : 20 - 30 - Beam Angle (°) : max 60 - Lifetime (hours) : min 30,000 - Manufacturer Warranty : 3 years	L/S	
4.3.14	New Track Rail single circuit 1 meter/ 2 meter/ 3 meter c/w track link (I Joint/ L Joint/ L Joint) and necessary accessories.	L/S	
4.3.15	New 12V LED surface type self-contained Emergency Light c/w rechargeable battery operation of minimum 3 hours.(Approved by BOMBA)	L/S	
4.3.16	New Slim line design 'KELUAR' sign c/w Super Bright LED and rechargeable battery operation of minimum 3 hours.(Approved by BOMBA)	L/S	
5	BLOK A LEVEL 3		
	INTERNAL LOW TENSION ELECTRICAL INSTALLATIONS		
5.1	Electrical Board		
	To supply, install, testing and commissioning of the followings Electrical boards complete with cable termination, Labelling/Schematic/Number for all wirings and all other necessary accessories, contactor & timer (if any) and associated works as per Specification and/or Tender Drawings		
5.1.1	New 100A TPN Wall Mounted Sub Switch Board (SSB LEVEL 3) c/w :- i. Incoming cable terminating box ii. 0 - 600v Voltmeter and Selector switch iii. Ammeter with M.D indicator c/w C.T's iv. Indicating light (Red, Yellow and Blue) v. Earth Leakage Relay (ELR) vii.Busbar and all internal wiring vii.The following MCCBs as incoming / outgoing viii.Current Transformer ix. Rubber Mat 1/4 " iix. Calibration all relay	L/S	

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Keterangan : 4.1 - KERJA ELEKTRIKAL

BIL	KETERANGAN	UNIT	HARGA (RM)
5.1.2	New 60A TPN Wall Mounted Distribution Board (DB-1-L/P/LEVEL 3) c/w :- i. Internal wiring ii. Busbar Compartment iii. Moulded Case Circuit Breaker (MCCB) iv. Residual Current Circuit Breaker (RCCB) v. Miniature Circuit Breaker (MCB)	L/S	
5.1.3	New 60A TPN Wall Mounted Distribution Board (DB-2-L/P/LEVEL 3) c/w :- i. Internal wiring ii. Busbar Compartment iii. Moulded Case Circuit Breaker (MCCB) iv. Residual Current Circuit Breaker (RCCB) v. Miniature Circuit Breaker (MCB)	L/S	
5.1.4	New 40A TPN Wall Mounted Distribution Board (DB-3-AC(FCU)/LEVEL 3) c/w :- i. Internal wiring ii. Busbar Compartment iii. Moulded Case Circuit Breaker (MCCB) iv. Residual Current Circuit Breaker (RCCB) v. Miniature Circuit Breaker (MCB)	L/S	
5.2	Main Cabling and Sub Main Cabling		
	To supply, lay and install the following power cable complete with continuous protection conductor, cable lug and gland, cable bracket and support, cable trunking, riser, tray, conduit inclusive of earth wire and termination at both end and all other necessary accessories as per Specification and/or Drawings (The actual cable length must be measured on site by the Contractor)		
5.2.1	From New 100A Sub Switch Board (SSB) using 4 x 1c x 25mm ² PVC Cu. Cable + 1 x 1c x 25mm ² Cu. E.C.C laid in Hot Dipped Galvanised Trunking complete with necessary accessories to: a) New 60A DB-1-L/P-Level 3 b) New 60A DB-2-L/P-Level 3	L/S	
5.2.2	From New 100A Sub Switch Board (SSB) using 4 x 1c x 16mm ² PVC Cu. Cable + 1 x 1c x 16mm ² Cu. E.C.C laid in Hot Dipped Galvanised Trunking complete with necessary accessories to: a) New 40A DB-3-AC(FCU)-Level 3	L/S	
5.3	Light fittings, Switch Outlets and Final Sub-Circuit Wiring		
	To supply and install the following Sub-circuit wiring for lighting, switch socket outlets etc. complete with tag no., accessories as per Specification and/or Drawings		
5.3.1	To wire up lighting points using 2 x 1.5mm ² PVC Cu. Cable in Hot Dipped Galvanised Trunking/ G.I. conduit/ flexible G.I Conduit complete with earth wire, back box, switches and necessary accessories.	L/S	

MAKLUMAT SPESIFIKASI KERJA (SKOP TERPERINCI)

Tajuk Projek : KERJA MEMBAIKPULIH, MENAIKTARAF SERTA KERJA -KERJA YANG BERKAITAN DI BANGUNAN BLOK A UNTUK UNIVERSITI TEKNOLOGI MARA DI UiTM KAMPUS JALAN OTHMAN, PETALING JAYA, SELANGOR DARUL EHSAN

Keterangan : 4.1 - KERJA ELEKTRIKAL

BIL	KETERANGAN	UNIT	HARGA (RM)
5.3.2	To wire up lighting points for suspension linear using 2 x 1.5mm ² PVC Cu. Cable in Hot Dipped Galvanised Trunking/ G.I. conduit/ flexible G.I Conduit complete with earth wire, back box, switches and necessary accessories. - Classroom	L/S	
5.3.3	To wire up lighting points for track light using 2 x 1.5mm ² PVC Cu. Cable in Hot Dipped Galvanised Trunking/ G.I. conduit/ flexible G.I Conduit complete with earth wire, back box, switches and necessary accessories - Classroom	L/S	
5.3.4	To wire up lighting points using 2 x 1.5mm ² PVC Cu. Cable in Hot Dipped Galvanised Trunking/ G.I. conduit/ flexible G.I Conduit complete with earth wire, back box, 2 way switch and necessary accessories. - Corridor	L/S	
5.3.5	To wire-up all 2 x 13A switch socket outlets using 2 x 2.5mm ² PVC Cu. cable in Hot Dipped Galvanised Trunking/ G.I conduit complete with earth wires, back box, decorative socket and necessary accessories.(Ring & radial circuit)	L/S	
5.3.6	To wire-up all self contained emergency lighting point using 2 x 1.5mm ² PVC Cu. cable in Hot Dipped Galvanised Trunking/ G.I conduit complete with earth wire, and all other necessary accessories.	L/S	
5.3.7	To wire-up all self contained KELUAR Sign light point using 2 x 1.5mm ² PVC Cu. cable in Hot Dipped Galvanised Trunking/ G.I conduit complete with earth wire, and all other necessary accessories.	L/S	
	To supply and install each of the following types of electrical fittings complete with tubes, bulb, brackets (if any) and all other necessary accessories as per Specification and/or Drawings		
5.3.8	New Suspended Rectangular Linear Fitting c/w :- - Tube : 1200mm T8 LED - Colour temperature (K) : 4000 - 6500 - Lumen (lm) : min 1800 - LED Power (w) : max 18 - Beam Angle (°) : min 120 - Lifetime (hours) : min 30,000 - Lamp cap : G13 - Colour finishes : Black/ Grey/ White - Housing : Metal/ Aluminium - Hanging : Suspension wire - Diffuser frosted : Acrylic/ polycarbonateite	L/S	

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Keterangan : 4.1 - KERJA ELEKTRIKAL

BIL	KETERANGAN	UNIT	HARGA (RM)
5.3.9	New T8 LED Slim Bare Battern Fitting c/w :- - Tube : 1200mm T8 LED - Colour temperature (K) : 4000 - 6500 - Lumen (lm) : min 1800 - LED Power (w) : max 18 - Beam Angle (°) : min 120 - Lifetime (hours) : min 30,000 - Lamp cap : G13	L/S	
5.3.10	New T8 LED Suspended Slim Bare Battern Fitting c/w :- - Tube : 1200mm T8 LED - Colour temperature (K) : 4000 - 6500 - Lumen (lm) : min 1800 - LED Power (w) : max 18 - Beam Angle (°) : min 120 - Lifetime (hours) : min 30,000 - Lamp cap : G13	L/S	
5.3.11	New T8 LED Surface Square Diakon Diffuser Fitting c/w :- - Tube : 1200mm T8 LED - Colour temperature (K) : 4000 - 6500 - Lumen (lm) : min 1800 - LED Power (w) : max 18 - Beam Angle (°) : min 120 - Lifetime (hours) : min 30,000 - Lamp cap : G13	L/S	
5.3.12	New LED Track Spotlight c/w :- - Tube : Tridonic LED COB LED - Colour temperature (K) : 3000 - 4000 - Lumen (lm) : 2400 - 4000 - LED Power (w) : 20 - 30 - Beam Angle (°) : max 60 - Lifetime (hours) : min 30,000 - Manufacturer Warranty : 3 years	L/S	
5.3.13	New Track Rail single circuit 1 meter/ 2 meter/ 3 meter c/w track link (I Joint/ L Joint/ L Joint) and necessary accessories.	L/S	
5.3.14	New 12V LED surface type self-contained Emergency Light c/w rechargeable battery operation of minimum 3 hours.(Approved by BOMBA)	L/S	
5.3.15	New Slim line design 'KELUAR' sign c/w Super Bright LED and rechargeable battery operation of minimum 3 hours.(Approved by BOMBA)	L/S	
6	BLOK A LEVEL 4. LEVEL 5 AND LEVEL ROOF TOP		
	INTERNAL LOW TENSION ELECTRICAL INSTALLATIONS		
6.1	Electrical Board		

MAKLUMAT SPESIFIKASI KERJA (SKOP TERPERINCI)

Tajuk Projek : KERJA MEMBAIKPULIH, MENAIKTARAF SERTA KERJA -KERJA YANG BERKAITAN DI BANGUNAN BLOK A UNTUK UNIVERSITI TEKNOLOGI MARA DI UiTM KAMPUS JALAN OTHMAN, PETALING JAYA, SELANGOR DARUL EHSAN

Keterangan : 4.1 - KERJA ELEKTRIKAL

BIL	KETERANGAN	UNIT	HARGA (RM)
	To supply, install, testing and commissioning of the followings Electrical boards complete with cable termination, Labelling/Schematic/Number for all wirings and all other necessary accessories, contactor & timer (if any) and associated works as per Specification and/or Tender Drawings		
6.1.1	New 100A TPN Wall Mounted Sub Switch Board (SSB LEVEL 4) c/w :- i. Incoming cable terminating box ii. 0 - 600v Voltmeter and Selector switch iii. Ammeter with M.D indicator c/w C.T's iv. Indicating light (Red, Yellow and Blue) v. Earth Leakage Relay (ELR) vii.Busbar and all internal wiring vii.The following MCCBs as incoming / outgoing viii.Current Transformer ix. Rubber Mat 1/4 " iix. Calibration all relay	L/S	
6.1.2	New 60A TPN Wall Mounted Distribution Board (DB-1-L/P/LEVEL 4) c/w :- i. Internal wiring ii. Busbar Compartment iii.Moulded Case Circuit Breaker (MCCB) iv.Residual Current Circuit Breaker (RCCB) v. Miniature Circuir Breaker (MCB)	L/S	
6.1.3	New 60A TPN Wall Mounted Distribution Board (DB-2-L/P/LEVEL 4) c/w :- i. Internal wiring ii. Busbar Compartment iii.Moulded Case Circuit Breaker (MCCB) iv.Residual Current Circuit Breaker (RCCB) v. Miniature Circuir Breaker (MCB)	L/S	
6.1.4	New 60A TPN Wall Mounted Distribution Board (DB-3-AC(FCU)/LEVEL 4) c/w :- i. Internal wiring ii. Busbar Compartment iii.Moulded Case Circuit Breaker (MCCB) iv.Residual Current Circuit Breaker (RCCB) v. Miniature Circuir Breaker (MCB)	L/S	
6.2	Main Cabling and Sub Main Cabling		
	To supply, lay and install the following power cable complete with continuous protection conductor, cable lug and gland, cable bracket and support, cable trunking, riser, tray, conduit inclusive of earth wire and termination at both end and all other necessary accessories as per Specification and/or Drawings (The actual cable length must be measured on site by the Contractor)		

MAKLUMAT SPESIFIKASI KERJA (SKOP TERPERINCI)

Tajuk Projek : KERJA MEMBAIKPULIH, MENAIKTARAF SERTA KERJA -KERJA YANG BERKAITAN DI BANGUNAN BLOK A UNTUK UNIVERSITI TEKNOLOGI MARA DI UiTM KAMPUS JALAN OTHMAN, PETALING JAYA, SELANGOR DARUL EHSAN

Keterangan : 4.1 - KERJA ELEKTRIKAL

BIL	KETERANGAN	UNIT	HARGA (RM)
6.2.1	From New 100A Sub Switch Board (SSB) using 4 x 1c x 25mm ² PVC Cu. Cable + 1 x 1c x 25mm ² Cu. E.C.C laid in Hot Dipped Galvanised Trunking complete with necessary accessories to: a)New 60A DB-1-L/P-Level 4 b)New 60A DB-2-L/P-Level 4	L/S	
6.2.2	From New 100A Sub Switch Board (SSB) using 4 x 1c x 16mm ² PVC Cu. Cable + 1 x 1c x 16mm ² Cu. E.C.C laid in Hot Dipped Galvanised Trunking complete with necessary accessories to: a)New 40A DB-3-AC(FCU)/Level 4	L/S	
6.3	Light fittings, Switch Outlets and Final Sub-Circuit Wiring		
	To supply and install the following Sub-circuit wiring for lighting, switch socket outlets etc. complete with tag no., accessories as per Specification and/or Drawings		
6.3.1	To wire up lighting points using 2 x 1.5mm ² PVC Cu. Cable in Hot Dipped Galvanised Trunking/ G.I. conduit/ flexible G.I Conduit complete with earth wire, back box, switches and necessary accessories.	L/S	
6.3.2	To wire up lighting points using 2 x 1.5mm ² PVC Cu. Cable in Hot Dipped Galvanised Trunking/ G.I. conduit/ flexible G.I Conduit complete with earth wire, back box, 2 way switch and necessary accessories.(Corridor)	L/S	
6.3.3	To wire-up all 2 x 13A switch socket outlets using 2 x 2.5mm ² PVC Cu. cable in Hot Dipped Galvanised Trunking/ G.I conduit complete with earth wires, back box, decorative socket and necessary accessories.(Ring & radial circuit)	L/S	
6.3.4	To wire-up all self contained emergency lighting point using 2 x 1.5mm ² PVC Cu. cable in Hot Dipped Galvanised Trunking/ G.I conduit complete with earth wire, and all other necessary accessories.	L/S	
6.3.5	To wire-up all self contained KELUAR Sign light point using 2 x 1.5mm ² PVC Cu. cable in Hot Dipped Galvanised Trunking/ G.I conduit complete with earth wire, and all other necessary accessories.	L/S	
	To supply and install each of the following types of electrical fittings complete with tubes, bulb, brackets (if any) and all other necessary accessories as per Specification and/or Drawings		
6.3.6	New Recessed Mirror Louvre Fitting (600mm x 1200mm) c/w :- - Tube : 1200mm T8 LED - Colour temperature (K) : 4000 - 6500 - Lumen (lm) : min 1800 - LED Power (w) : max 18 - Beam Angle (°) : min 120 - Lifetime (hours) : min 30,000 - Lamp cap : G13	L/S	

MAKLUMAT SPESIFIKASI KERJA (SKOP TERPERINCI)

Tajuk Projek : KERJA MEMBAIKPULIH, MENAIKTARAF SERTA KERJA -KERJA YANG BERKAITAN DI BANGUNAN BLOK A UNTUK UNIVERSITI TEKNOLOGI MARA DI UiTM KAMPUS JALAN OTHMAN, PETALING JAYA, SELANGOR DARUL EHSAN

Keterangan : 4.1 - KERJA ELEKTRIKAL

BIL	KETERANGAN	UNIT	HARGA (RM)
6.3.7	New T8 LED Suspended Slim Bare Battern Fitting c/w :- - Tube : 1200mm T8 LED - Colour temperature (K) : 4000 - 6500 - Lumen (lm) : min 1800 - LED Power (w) : max 18 - Beam Angle (°) : min 120 - Lifetime (hours) : min 30,000 - Lamp cap : G13	L/S	
6.3.8	New T8 LED Surface Square Diakon Diffuser Fitting c/w :- - Tube : 1200mm T8 LED - Colour temperature (K) : 4000 - 6500 - Lumen (lm) : min 1800 - LED Power (w) : max 18 - Beam Angle (°) : min 120 - Lifetime (hours) : min 30,000 - Lamp cap : G13	L/S	
6.3.9	New 12V LED surface type self-contained Emergency Light c/w rechargeable battery operation of minimum 3 hours.(Approved by BOMBA)	L/S	
6.3.10	New Slim line design 'KELUAR' sign c/w Super Bright LED and rechargeable battery operation of minimum 3 hours.(Approved by BOMBA)	L/S	
7	LIGHTNING PROTECTION SYSTEM (LPS) BLOK A		
7.1	Supply and install Lightning Protection System (LPS) component: - Air Terminal Base - Square Tape Clamp - Test Clamp - Copper tape (25mm x 3mm) - Saddle tape - Others neccessary accessories	L/S	
7.2	Supply and install 2 x copper rod ([16 mm diameter x 1500mm) including 'exothermic welding' connection and concrete earth chamber inspection with heavy duty cover (the result is less than 10 ohm)	L/S	
8	OTHERS		
8.1	To supply and install cable management system (Underfloor System) c/w ducting 3 way compartment (electrical, ICT & telephone),service outlet box, junction box include flyover, vertical access box, hacking, make good existing floor include replace with new floor finishes (if any) and other necessary accessories	L/S	
8.2	Replace all existing MS Trunking (PABX Green) to new hot dipped galvanised trunking with the same size.(from PABX main hole to TM Unifi Panel Block A)	L/S	
8.3	To box up with new hot dipped galvanised trunking to cover up existing cable at wall (area PABX main hole)	L/S	

MAKLUMAT SPESIFIKASI KERJA (SKOP TERPERINCI)



Tajuk Projek : KERJA MEMBAIKPULIH, MENAIKTARAF SERTA KERJA -KERJA YANG BERKAITAN DI BANGUNAN BLOK A
UNTUK UNIVERSITI TEKNOLOGI MARA DI UiTM KAMPUS JALAN OTHMAN, PETALING JAYA, SELANGOR DARUL
EHSAN
Keterangan : 4.1 - KERJA ELEKTRIKAL

BIL	KETERANGAN	UNIT	HARGA (RM)
8.4	Replace all existing MS Trunking (Electrical Orange) to new hot dipped galvanised trunking with the same size (from beside PABX main hole to Block B)	L/S	
8.5	To dismantle and install existing compound lighting to new location (5 meter) c/w new concrete footing	L/S	
8.6	To troubleshoot existing compound lighting and replace with new E27 LED 26w bulb, control gear and internal wiring (approximate : 8 nos)	L/S	
8.7	Testing and commisioning for all electrical and telecommunication system c/w verify from Competent Person	L/S	
JUMLAH (RM)			