



**CONSTRUCTION OF CAFETERIA BLOCK FOR THE LIAQUAT
UNIVERSITY OF MEDICAL & HEALTH SCIENCE
JAMSHORO, SINDH**



CAFETERIA BLOCK (COVERED AREA = 2000 SFT)

BILL OF QUANTITIES

APRIL 2024



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**CONSTRUCTION OF CAFETERIA BLOCK FOR THE LIAQUAT UNIVERSITY OF
MEDICAL & HEALTH SCIENCE JAMSHORO, SINDH
(COVERED AREA = 2000 ft)**

BILL OF QUANTITIES

Rates Based on Composite Schedule of Rate (GENERAL-2012) Sindh

Sr. No.	DESCRIPTION	AMOUNT
1.	CIVIL WORKS	
a	Cost of Schedule Items	3,726,416
b	Add/ Deduct _____ % above/ below on Scheduled Items	
c	Cost of Non-Schedule Items	
	TOTAL OF CIVIL WORKS-A	
2.	PUBLIC HEALTH WORKS	
a	Cost of Schedule Items	175,706
b	Add/ Deduct _____ % above/ below on Scheduled Items	
c	Cost of Non-Schedule Items	
	TOTAL OF PHE WORKS -B	
3.	ELECTRICAL WORKS	
a	Cost of Schedule Items	377,448
b	Add/ Deduct _____ % above/ below on Scheduled Items	
c	Cost of Non-Schedule Items	
	TOTAL OF ELECTRICAL WORKS-C	
	TOTAL (A+B+C)	
	5% SST	
	GRAND TOTAL WITH SST	

Amount in Words:

Contractor

Client

**CONSTRUCTION OF CAFETERIA BLOCK FOR THE LIAQUAT UNIVERSITY OF
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BILL OF QUANTITIES

CIVIL WORKS

Rates Based on Composite Schedule of Rate (GENERAL-2012) Sindh

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
1	C-1/18(b)	Excavation in foundation of Building Bridges and other structures including dagbelling dressing,refilling around structure with excavated earth Watering and ramming lead upto 5 ft in Ordinary Soil.	%0Cft	3533.00	3176.25	11,222
2	C-1/19	Cutting hard rock such as granite, ballast, hard lime stone or sand stone etc. with chisels and hammers for small foundations.	%0Cft	2918.53	28672.05	83,680
3	C-18/92	Providing Anti -termmite treatment by spraying /sprinkling /spreading Neptachlar 0.5% Emulsion as an overall pre - construction treatment in slab type construction under the slab and along attached perches or entrances etc, complete as per directions of Engineer Incharge.	P.Sft	8548.00	9.74	83,257
4	C-4/5(i)	Cement concrete plain including placing compacting, finishing and curing, complete (including screening and washing at stone aggregate without for all shuttering.(Mix 1:4:8)	%Cft	434.68	11288.75	49,070
5	C-4/6 a-i	R.C work in roof slab, beams columns rafts, lintels and other structural members laid in situ or precast laid in position complete in all respects (I) Ratio (1 : 2: 4) 90 Lbs.cement 2 Cft. Sand 4 Cft. Shingle 1/8" to 1/4" gauge..(Foundation, Beams, Slabs, Stairs)	P.Cft	3100.17	337.00	1,044,757
6	C-4/6 a-ii	Reinforced cement concrete in roof slab, beams, columns lintels, girders and other structural members laid in situ or precast laid in position, or prestressed members cast in situ, complete in all respects:- Type B (nominal mix 1: 1.5: 3) Columns	P.Cft	729.40	349.00	254,560
7	C-5/4-l(e)	Pacca brick work in foundation and plinth in cement sand mortar 1:6.	%Cft	2499.98	11948.36	298,706
8	C-1/21	Filling, watering and ramming earth in floors with surplus earth from foundation lead upto one chain and lift upto 5 feet.	%0Cft	2150.51	1512.50	3,253
9	C-5/5-l(d)	Pacca brick work in Ground Floor cement, sand mortar Ratio 1:5	%Cft	1378.00	12902.08	177,791
10	C-5/5-l(c)	Pacca brick work in Ground Floor cement, sand mortar Ratio 1:4	%Cft	188.31	13227.41	24,909
11	C-9/12(b)	Cement plaster 1:5 upto 12' height:- b) 1/2" thick. Ground Floor	%Sft	7194.48	2241.80	161,286
12	C-9/11(a)	Cement plaster 1:4 upto 12' height:- b) 3/8" thick. Ground Floor	%Sft	6768.48	2197.52	148,739
13	C-9/12(b) +29	Cement plaster 1:5 upto 12' height:- b) 1/2" thick. First Floor	%Sft	2514.00	2382.77	59,903
14	C-9/11(a) +29	Cement plaster 1:4 upto 12' height:- b) 3/8" thick . First Floor	%Sft	2514.00	2338.49	58,790
15	C-9/10(a)	Cement plaster 3/8" thick under soffit or R.C.C. roof slab only upto 12' height ratio 1:3. Ground Floor	%Sft	3482.00	2225.12	77,479
16	C-9/10(a)+29	Cement plaster 3/8" thick under soffit or R.C.C. roof slab only upto 12' height ratio 1:3. First Floor	%Sft	148.50	2366.09	3,514

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
17	C-9/40.A + 40-B	Preparing the surface and painting with plastic emulsion paint of approved make i/c rubbing the surface with sand Paper, filling the voids with chalk / plaster of paris and then painting etc. complete. Three Coats	%Sft	5407.98	2237.95	121,028
18	C-9/(38.A+38.B)	Preparing the surface and painting with weather coat i/c rubbing the surface with rubbing brick / sand Paper, filling the voids with chalk/ plaster of Paris and then painting with weather coat of approved make.- three coats	%Sft	6429.50	2567.95	165,106
19	C-4/5(i)	Cement concrete plain including placing compacting, finishing and curing, complete (including screening and washing at stone aggregate without for all shuttering.(Mix 1:4:8) (Under Floor)	%Cft	1137.06	11288.75	128,360
20	C-8/16-a	Providing and laying 1" thick topping cement concrete (1:2:4) including Surface finishing and dividiing into panels:(a) 1" thick Ground Floor. (Mosaic Flooring)	%Sft	1440.50	1915.13	27,587.45
21	C-8/16-c	Providing and laying 2" thick topping cement concrete (1:2:4) including Surface finishing and dividiing into panels:	%Sft	523.38	3275.50	17,143
22	C-8/16-d + C-8/18	Providing and laying 3" thick topping cement concrete (1:2:4) including Surface finishing and dividiing into panels: (Roof)	%Sft	1702.00	4638.70	78,950.67
23	C-7/18	Khuras on roof 2'x2'x6" (600 x 600 x 150 mm)	Each	10.00	358.68	3,587
24	C-18/83(a)	Supplying & fixing in position Aluminium channels framing for hinged doors or Alcop made with 5 mm thick tinted glass glazing (Belgium) and Alpha (Japan) locks i/c handles, stoppers etc. (a) Deluxe model (White)	P.Sft	168.00	1450.76	243,727.68
25	C-10/21	Providing and fixing, approved quality mortice lock.	Each	2.00	1786.13	3,572
26	C-11/5-(c)	Preparing surface and painting of doors and windows any type, (including edges).Three Coats.	%Sft	24.00	2116.41	508
27	C-18/84(a)	Supplying & fixing in position Aluminium channels framing for slidding windows & ventilators of Alcop made with 5 mm thick tinted glass glazing (Belgium) & Aluminium fly screen i/c handles stoppers & locking arrangement etc. complete. (a) Deluxe model (White).	P.Sft	242.00	1592.69	385,430.98
28	C-Public Health Part B/J/Page-35	Providing C.I Manhole Cover & Frame i/c cost of Material etc. (O.H.W.T)	P.Kg	75.00	140.00	10,500
Total of SOR ITEMS						3,726,416

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BILL OF QUANTITIES

CIVIL WORKS

Non-Scheduled Items

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
1	NSI	Providing and laying sweat earth with new earth excavated from outside including watering ramming compacting in layers up to 12" thick etc completed as directed by engineer Incharge	P.Cft	7825.50		
2	NSI	Supplying laying River sand or pit sand of approved quarry and levelling dressing, watering ramming and compacting by manual compactor method etc complete.	P.Cft	750.46		
3	NSI	Providing and fixing M.S. grill fabricated with MS Square polished Vertical/horizontal Bars of specified size @ 4" c/c ' passed through punched holes in MS Patti of 1-1/4"x1/8" i/c the cost of 1-1/4"x1/8" MS patti for Frame of windows and painting Master, Happy or Equivalent 3 coat complete in all respect as approved and directed by the Engineer Incharge. (ii) 1/2" Square Bars	P.Sft	242.00		
4	NSI	Providing and laying hard grade ribbed deformed (minimum yield point 60,000 psi) reinforcement bars of all sizes with & including the cost of straightening, cutting, bending laying in position, making joints, wastage, including the cost of binding wire and labor charges for binding of steel reinforcement overlaps other than those shown on drawings, steel chairs, precast chairs, removal of rust from bars placing in position on cement concrete complete in all respect Amreli Steel, Agha Steel, Razaque Steel or equivalent approved by engineer incharge.	P.Kg	12500.00		
5	NSI	P/F 1-1/2" thick solid flush door comprising of 2.5 mm thick Commercial ply compressed over 2.5 mm thick commercial ply over 1" thick packing wood in style and rails under proper pressure i/c french polish Master, Happy or Equivalent Brand the cost of nails, sliding bolt, tower bolt , handles, glue, sawing charges, Painting charges, sand papering and 3/8" thick matching wooden lipping as approved and directed by the Engineer Incharge.	P.Sft	38.50		
6	NSI	Providing and laying travertine stone of (12" x 6") size of laid in white cement and matching pigment over 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement and matching pigment and also including all type labours and also scaffolding charges with labour complete in all respect as approved by the Engineer incharge.	P.Sft	927.00		
7	NSI	Providing and laying Ceramic Matt Tiles Texture Light color for flooring size 12"x18"x3/8" laid over 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement and matching pigment i/c cutting charges complete in all respect as approved & directed by the Engineer/ Incharge. (Shabbir Tiles or Equivalent)	P.Sft	370.50		
8	NSI	Providing and laying Ceramic Tiles Texture Light color for skirting / dado size 12"x18"x3/8" laid over 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement and matching pigment i/c cutting charges complete in all respect as approved & directed by the Engineer/ Incharge. (Shabbir Tiles, or Equivalent)	P.Sft	1118.25		

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
9	NSI	Providing and fixing 3/4" thick China Verona full width area above 2 Sft laid in white cement matching pigment 3/4" thick cement sand mortar (1:2) i/c filling joints in white cement & matching pigment, making gola on exposed edges complete in all respect as approved by the Engineer/ Incharge.(Stairs, Podium, Planter and Vanity)	P.Sft	911.13		
10	NSI	Providing and fixing PVC Doors 38mm thickness i/c deluex matching color PVC frame matt or glossy finish having color (white-Gray-Marble Gray-Oak Wood- Dard Oak Wood, Coffee Wood Honey Pine Wood-Mahagony-Marry Gold-Chocolate Brown-Honey Dew) i/c all accessories i/c mortice locks complete in all respect as approval by the Engineer Incharge.	P.Sft	35.00		
11	NSI	Providing and fixing Steel Sheet (Jisti) hollow press frame of doors, etc. (Chowkhat only) of 16 SWG welded with M.S. flat 6"x1½"x1/8" (150x40x3mm) M.S. hold fast 9"x1"x1/8" (225x25x3mm) welded/ screwed 4" (100mm) long iron hinges including fitting chowkhat with cement sand mortar 1:8 and embedding hold fast in cement concrete 1:2:, Single Rebate, 10" wide, complete in all respect as per direction of Engineer in-charge.	P.Sft	38.50		
12	NSI	Providing and fixing 2'-9" high stair railing comprising of non magnetic (304) Stain less steel 2" dia pipe railing of 18 SWG welded with vertical posts of 2" dia stainless steel round/ Squar pipe/ Tong (chimta) @ 2-ft c/c fixed on alternate steps with 3" long steel screws and brass rawal plugs , 3-Nos diagonal stainless steel pipes of 1/2" dia passes through goties fixed on vertical post, i/c staines steel welding, fixing & polishing complete in all respects as approved and directed by the Engineer Incharge	P.Rft	40.00		
13	NSI	Providing and fixing automatic hydraulic operated door closer imported heavy duty complete in all respect as approved and directed by the Engineer Incharge.	Each	6.00		
14	NSI	Providing and applying of 2 coat of Acrylic Re-enforced Cementitious water proofing & Protective Coating (ConFlex 515) Complete in all respects.	P.Sft	1518.17		
15	NSI	Providing and fixing Stainless Steel (24 SWG) Letters of 2 feet Height with CNC laser cutting i/c all hardware required complete in all respect as per drawings and direction of Engineer In-charge. (Drawing Reference Page No. 3D-02)	Each	14.00		
16	NSI	Providing and fixing stainless steel mesh of 16 guage fixed with nails for concrete and bricks joint complete in all respect and as approved and directed by the Engineer Incharge.	P.Sft	450.00		
Total of Non SOR ITEMS						

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BILL OF QUANTITIES

PUBLIC HEALTH WORKS

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
		SANITARY FIXTURES AND FITTINGS				
1	SOR(Water supply & Sewerage (Ch 1/5)	Providing and fixing European type white glazed earthen ware wash down W.C. pan complete with and l/c the cost of white/black plastic seat (Best quality) and lid with C.P.brass hineges and buffers, 3 gallons white glazed earthen ware low level foushing cistern with siphon fitting 1-1/2" dia white porcelain enamelled fluish bend 3/4" dia and making requisite number of holes in walls, plinth and floor for pipe connections and making good in cement concrete 1:2:4. (ICL or Equivalent)	Each	2.00	11,477.40	22,954.80
2	SOR(Water supply & Sewerage (Ch 1/2-A ii)	Providing and Fixing squatting type white glazed earthen ware w.c pan with front fresh inlet & complete with including the cost of flushing cistern with internal fitting and flush pipe with bend and making requisite number of holes in walls plinth & floor for pipe connection and making good in cement concrete 1:2:4. (A) W.C pan 23" & low level earthen ware flush tank 3 gallons. (ii) with 4" dia white glazed earthen ware trap and plastic thumble. (Foriegn Quality)	Each	1.00	5,772.80	5,772.80
3	SOR(Water supply & Sewerage (Ch 6/19 (a)	Providing and fixing CP Muslim shower with double bib cock & ring pipe etc complete.	Each	3.00	3,432.00	10,296.00
4	SOR(Water supply & Sewerage (Ch 2/5)	Providing and fixing soap tray earthen ware with c.p screws etc.complete.	Each	4.00	497.20	1,988.80
5	SOR(Water supply & Sewerage (Ch 2/1 (iii-b)	Providing and fixing chrome plated brass towel rail complete with brackets fixing with 1" long c.p brass screws. (iii) Towel Rail 24" long (b) 3/4" dia round or square (Superior Quality)	Each	2.00	1,082.95	2,165.90
6	SOR(Water supply & Sewerage (Ch 2/2 (b)	Providing and fixing c,p brass toilet paper holder of standard size with chrome plated brass brackets complete (Similar to twyford's design No 1108) (b) Superior Quality	Each	3.00	1,071.40	3,214.20
7	SOR (PHE works) Part-B (III) A-1	Excavation for pipeline in trechches, and pits in soft soils i/c trimming and dressing sides to true alignment and shape levelling of beds of trenches to correct level and grade, cutting joint and holes and disposal of surplus earth within a one chain as directed by engineer incharge.Providing fence guards, lights, flags and temperory crossings for non-vehicular traffic where ever required lift upto 5ft. (1.52 m) and lead upto one chain (30.5 m).	1000 Cft	312.50	3,600.00	1,125.00
8	SOR(Water supply & Sewerage (Ch 6/4 (iv)	Providing and fixing full way gun metal peet/gate valve with wheels, threaded or flabged ends with rubber washing. (iv) 1-1/4" (Light pattern)	Each	1.00	337.92	337.92
9	SOR(Water supply & Sewerage (Ch 6/4 (v)	Providing and fixing full way gun metal peet/gate valve with wheels, threaded or flabged ends with rubber washing. (v) 1-1/2" (Light pattern)	Each	1.00	695.42	695.42

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
		MANHOLE				
10	SOR (PHE works) P-1	Constructing manhole or inspection chamber for the required diameter of circular sewer and 3'-6" (1067 mm) depth with walls of BB in cement sand mortar 1:3 cement plastered 1:3, 1/2" thick. Inside of walls and 1" (25 mm) thick over benching and channel i/c fixing C.I manhole cover with frame of clear opening 1-1/2' x 1-1/2' (457 x 457mm) of 1.75 cwt. (88.9 Kg) embedded in plain C.C 1:2:4 and fixing 1"(25mm) dia MS steps 6" (150 mm) wide projecting 4" (102mm) from the face of wall at 12" (305mm) C/C duly painted etc. Complete as per Standard specification and drawing.	P.Job	2.00	14,748.00	29,496.00
11	SOR (Water supply & Sanitary works) Ch 1-13	Providing & fixing 22"x 16" lavatory basin in white glazed earthen ware complete with & i/c the cost of W.I or C.I cantilever brackets 6 inches built into walls, painted white in 2 coats after a primary coat of red lead paint, a pair of 1/2" rubber plug & chrome brass waste of approved pattern 1-1/4" dia malleable iron or CP brass trap, malleable iron or brass unions and making requisite number of holes in walls plinth and floor for pipe connection & making good in cement concrete 1:2:4 (Foreign or Equivalent)	Each	4.00	6,237.00	24,948.00
12	SOR (Water supply & Sanitary works) Ch 1-26 (b)	Providing and fixing 24"x 18" bevelled edge mirror of belgium glass complete with 1/8" thick hard board and c.p screws fixed to wooden pleat. (Standard Pattern)	P.Sft	15.00	2,376.00	35,640.00
		VALVES				
13	SOR (Water supply & Sanitary works) Ch 6-5	Providing and fixing handle valves (China) 16bars or equivalent complete in all respects as approved by the engineer incharge.				
	ii	3/4 inch	Each	1.00	271.92	271.92
	i	1/2 inch	Each	1.00	200.42	200.42
14	SOR (Water supply & Sanitary works) Ch 6-6 (iv)	Providing, fixing and testing PPRC ball valve 32mm , (with unsoldered copper ball) made to B.B.S 1212.	Each	1.00	510.84	510.84
15	SOR (Water supply & Sanitary works) Ch 6-6 (v)	Providing, fixing and testing PPRC ball valve 40mm , (with unsoldered copper ball) made to B.B.S 1212.	Each	1.00	573.70	573.70
16	SOR (Water supply & Sanitary works) Ch 4-1	Providing G.I Pipes, specials, and clamps etc. including fixing cutting & fitting complete with and i/c the cost of breaking through walls and roof, making good etc. Painting two coats after cleaning the pipe etc. with white zinc paint with pigment to match the color of the building and testing with water to a pressure head of 200 feet and handling.				
	v	1-1/2" dia G.I pipe	P.Rft	50.00	188.97	9,448.50
	vi	2" dia G.I pipe	P.Rft	10.00	233.00	2,330.00
17	SOR (PHE works) Part-B (II) (O-9 (a))	Providing and installing P.V.C. strainers `B' class of approved design quality and make including necessary sockets and solvent, etc. complete: 3" (80 mm)	P.Rft	80.00	166.35	13,308.00

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
18	SOR (PHE works) Part-B (II) (O-8 (b))	Supplying & fixing M.S bail plug.	Each	4.00	2,607.00	10,428.00
TOTAL OF SOR ITEMS						175,706.22

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BILL OF QUANTITIES

PUBLIC HEALTH WORKS

Non-Scheduled Items

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
1	NSI	UPVC Multi Floor Trap (110x75mm) including strainer; making required number of connections; breaking concrete or masonry work & then making it good; etc. of approved make.	Each	2.00		
2	NSI	Providing, Fixing Dadex Class D or equivalent UPVC clean out with cover making requisite number of holes in walls, plinth or floor for pipe connection and making good the same as necessary to the structure complete including, rubber gasket and clamp.	Each	4.00		
3	NSI	Providing and fitting "P" trap:ii) 10 cm (4") glazed.	Each	15.00		
4		WATER SUPPLY PIPES AND FITTINGS				
		P/F Polypropylene Random copolymer (PPRC) PN-20 pipe with fusion / threaded joints including the cost of all specials/ accessories i.e elbow, bend, sockets etc. (Popular /Beta or equivalent) complete in all respect.				
	i	1" (32 mm) dia.	P.Rft	100.00		
	ii	3/4" (25 mm) dia.	P.Rft	120.00		
5		SOIL, WASTE, VENTILATING PIPES & FITTINGS				
		Providing , fixing and testing UPVC Nikasi type "B" with solution of same quality make including the cost of all specials/ accessories i.e elbow, bend, sockets etc. (Popular/Beta or equivalent) complete in all respect.				
	i	100 mm (4") dia.	P.Rft	35.00		
	ii	80 mm (3") dia.	P.Rft	35.00		
		GAS GESYER				
6	NSI	Providing and fixing Gate valve 1 bars, RUV(itly) or equivalent complete in all respects as approved by the Engineer incharge.	Each	2.00		
7	NSI	Providing and fixing Gate valve 2 bars, RUV(itly) or equivalent complete in all respects as approved by the Engineer incharge.	Each	2.00		
8	NSI	Providing and fixing of 2 HP Centrifugal motor pump having 50mm suction and 100ft head from approved manufacturer complete in all respect as per approval of Engineer Incharge.	Each	1.00		
9	NSI	Providing & fixing Floor Trap (Dadex Nikassi or equivalent) 6" x 3" or 6" x 2" of approved approved quality i/c the cost of cutting of floor etc complete in all respect as directed by Engineer Incharge	Each	7.00		
10	NSI	Supplying and installing PVC blind pipe 'B' Class of approved design quality and make i/c necessary sockets etc. complete.				
	a	1¼" i/d (30 mm) 1 x 70	P.Rft	50.00		

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
	b	1½" i/d (40 mm) 1 x 40	P.Rft	50.00		
	c	2" i/d (50 mm) 1 x 50	P.Rft	50.00		
11	NSI	Providing & fixing polyvinyl chloride unplasticized (PVC)-u Flow Line Pipe 200mm for sewerage/ drainage of approved quality (Dadex make or equivalent) i/c the cost of cutting / breaking walls, floor or where required etc complete in all respect as per directions of Engineer Incharge 6" Dia	P.Rft	50.00		
Total of Non SOR ITEMS						

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ELECTRICAL WORKS

Rates Based on Composite Schedule of Rate (GENERAL-2012) Sindh

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
1		DISTRIBUTION BOARDS				
		(General Description) Supply at site, fabrication, installation, testing and commissioning of Distribution Board (DB) , made of sheet steel 16 SWG, degreased and derusted, with 2 coats of antirust paint, 2 coats of powder coated paint of approved colour, protection classification IP-44, totally enclosed indoor floor mounting cubicle type in free standing design, with hinged door, handle including cost of all auxiliaries, internal wiring, designation lables on MCCBS, grounding bar suitable for system Voltage 440 V, 50 Hz, 3 Phase and neutral bus bars of 99.9% electrolytic copper, including cost of cable terminal blocks wiring from breakers, brass cable glands, all accessories complete in all respects mention in BOQ or not required for performing completely. All incoming and outgoing breakers shall be accessible only by opening the front door having further M.S. sheet cover gaskets shall also be provided where necessary. Panel should be compeltely made in certified factory. ie PEL, Green T & D, Mazcorp engiring or equivalent as per instructions by engineer incharge.e				
		(General Description) All MCCBs shall be suitable to operate without any derating at 40°C ambient temperature and shall be of one make only. The sides of MDB shall also have louvers at bottom and top on sides of panel for hot air exhaust, wire mesh etc. The back of the panel shall be lockable door instead of bolted and shall conform to single line diagram. item should be of ABB, Schneider or equivalent as per instructions by engineer incharge				
i)		DISTRIBUTION BOARD DB- CAFETERIA				
		INCOMMING				
a	ELECT SH-X(207)	Providing and fixing circuit breaker 15,20,30,40,50, 75 & 100 amps TP(XS-100NS) on prepared board as required.	Per No.	1	9261	9,261
b	ELECT SH-XV(269)	Providing and fixing of current transformer of ration 60/5 amps (round) RLC-30 as required or as per instructed as EI.	Per No.	3	1191	3,573
c	ELECT SH-XVI(285)	Providing and fixing voltmeter size 96/96mm 500 volt as required and as instruction of EI.	Per No.	3	999	2,997
d	ELECT SH-X(203)	Providing and fixing circuit breaker 6,10,15,20,30,40,50 & 63 amps SP(TB-5S) on prepared board as required.	Per No.	3	916	2,748
		OUTGOING				
e	ELECT SH-X(203)	Providing and fixing circuit breaker 6,10,15,20,30,40,50 & 63 amps SP(TB-5S) on prepared board as required.	Per No.	14	916	12,824
f	ELECT SH-X(207)	Providing and fixing circuit breaker 15,20,30,40,50, 75 & 100 amps TP(XS-100NS) on prepared board as required.	Per No.	1	9261	9,261
2		WIRING IN CONCEALED CONDUITS				
i)		Distribution board to Switch				
		(General Description) Wiring of light circuit from Distribution Board to switch,with Three nos. single core 2.5 Sqmm PVC insulated 450/750 volts grade stranded copper conductor cables in concealed PVC conduits (conduits partly shared) including PVC conduit, and conduit accessories etc. Cable should be of Newage, Fast cable, Universal cables or equivalent and conduit should be of Dadex, Turkplast, Easyfit or equivalent as per instructions by engineer incharge				
a	ELECT SH-(24)	Providing and laying (main or Sub Main Pvc insulated with 3-7.29 copper conductor in 3/4" dia PVC conduit recessed in the wall or column as required.	Rmtr	56	294.00	16,464
ii)		Switch to light point				

Sr. No.	Item No.	Description	Unit	Qty	Rate	Amount
		(General Description) Wiring from switch to light or fan point with 3 nos. single core 1.5 Sqmm PVC insulated 450/750 Volts grade stranded copper conductor cables in concealed PVC conduit including PVC conduit, Conduit accessories,etc.(conduit partly shared).				
a	ELECT SH-(124)	Wiring of Light and fan point with 3.29 Pvc insulated wire in 20mm (3/4") dia PVC conduit recessed in the wall or column as required.	Per/Point	28	1,130.00	31,640
		Point to point wiring				
b	ELECT SH-(22)	Providing and laying (main or Sub Main Pvc insulated with 3-3.29 copper conductor in 3/4" dia PVC conduit recessed in the wall or column as required.	Rmtr	96	220.00	21,120
iii)		Switch to Switch				
		(General Description) Wiring from switch to switch with 3 nos. single core 2.5 Sqmm PVC insulated 450/750 Volts grade stranded copper conductor cables in concealed PVC conduit including PVC conduit, Conduit accessories,etc.(conduit partly shared).				
a	ELECT SH-(24)	Providing and laying (main or Sub Main Pvc insulated with 3-7.29 copper conductor in 3/4" dia PVC conduit recessed in the wall or column as required.	Rmtr	41	294.00	12,054
iv)		Distribution board to General Purpose (5A/13A) socket				
		(General Description) Wiring of circuit from Distribution Board to 5A/13A ,230Volts with 3 nos. single core 2.5 Sqmm PVC insulated 450/750 Volts graded , 2&3 pin switched socket, stranded copper conductor cables in concealed PVC conduit, including conduit accessories, etc(conduit partly shared)				
a	ELECT SH-(24)	Providing and laying (main or Sub Main Pvc insulated with 3-7.29 copper conductor in 3/4" dia PVC conduit recessed in the wall or column as required.	Rmtr	42	294.00	12,348
v)		Socket to Socket				
		(General Description) Wiring from 5 Amps, 2&3 pin socket to socket with 3 nos. single core 2.5 Sqmm PVC insulated 450/750 Volts grade solid or stanerd copper conductor cables in concealed PVC conduit including PVC conduit,Conduit accessories, etc complete. (conduit partly shared)				
a	ELECT SH-(24)	Providing and laying (main or Sub Main Pvc insulated with 3-7.29 copper conductor in 3/4" dia PVC conduit recessed in the wall or column as required.	Rmtr	18	294.00	5,292
vi)		Distribution board to 15Amps socket				
		(General Description) Wiring of circuit from distribution board to 15A, 230Volts, DP switch with 3 nos. single core 4Sqmm PVC insulated 450/750 Volts grade stranded copper conductor cables in concealed PVC conduit including PVC conduit, Conduit accessories, etc (conduit partly shared for A/Cs)				
a	ELECT SH-I(25)	Providing and laying (main or Sub Main Pvc) insulated with 3-7.36 copper conductor in 3/4" dia PVC conduit recessed in the wall or column as required.	Rmtr	44	338.00	14,872
vii)		Distribution board to 20Amps socket				
		(General Description) Wiring of circuit from distribution board to 20A, 230Volts, DP switch with 3 or 5 nos. single core 6 Sqmm PVC insulated 450/750 Volts grade stranded copper conductor cables in concealed PVC conduit including PVC conduit, Conduit accessories, etc.				
a	ELECT SH-I(26)	Providing and laying (main or Sub Main Pvc insulated with 3-7.44 copper conductor in 1" dia PVC conduit recessed in the wall or column as required.	Rmtr	48	468.00	22,464
viii)		Wiring for flood lights				
a	ELECT SH-I(25)	Providing and laying (main or Sub Main Pvc) insulated with 3-7.36 copper conductor in 3/4" dia PVC conduit recessed in the wall or column as required.	Rmtr	40	338.00	13,520
3		LT Cables				
i)	ELECT SH-(113)	Providing and Laying (MAIN or SUB MAIN) PVC insulated & PVC sheeted with 4 core Armoured copper conductor 600/1000 volts size 16 mm2	Per Meter	100	1,679.00	167,900
4		MISCELLANEOUS FITTINGS				
ii)	ELECT SH(235)	Providing and fixing brass Ceiling fan 56" (good quality)	Per No.	6	3,185.00	19,110
TOTAL OF SOR ITEMS						377,448

**CONSTRUCTION OF CAFETERIA BLOCK FOR THE LIAQUAT UNIVERSITY OF
MEDICAL & HEALTH SCIENCE JAMSHORO, SINDH
(COVERED AREA = 2000 Sft)**

BILL OF QUANTITIES

ELECTRICAL WORKS

Non-Scheduled Items

Sr. No.	Item No.	Description	Unit	Qty	Unit Rate	Amount
1		DISTRIBUTION BOARDS				
		(General Description) Supply at site, fabrication, installation, testing and commissioning of Distribution Board (DB) , made of sheet steel 16 SWG, degreased and derusted, with 2 coats of antirust paint, 2 coats of powder coated paint of approved colour, protection classification IP-44, totally enclosed indoor floor mounting cubicle type in free standing design, with hinged door, handle including cost of all auxiliaries, internal wiring, designation lables on MCCBS, grounding bar suitable for system Voltage 440V, 50 Hz, 3 Phase and neutral bus bars of 99.9% electrolytic copper, including cost of cable terminal blocks wiring from breakers, brass cable glands, all accessories complete in all respects mention in BOQ or not required for performing completely. All incoming and outgoing breakers shall be accessible only by opening the front door having further M.S. sheet cover gaskets shall also be provided where necessary. Panel should be compeltely made in certified factory. ie PEL, Green T & D, Mazcorp engineering or equivalent as per instructions by engineer incharge.				
		(General Description) All MCCBs shall be suitable to operate without any derating at 40°C ambient temperature and shall be of one make only. The sides of MDB shall also have louvers at bottom and top on sides of panel for hot air exhaust, wire mesh etc. The back of the panel shall be lockable door instead of bolted and shall conform to single line diagram. item should be of ABB, Schneider or equivalent as per instructions by engineer incharge.				
ii)		DISTRIBUTION BOARD DB- CAFETERIA				
		INCOMING				
	NSI	Providing and fixing of Metal Clad, free standing, front access, totally enclosed, frame febreccated from 14/16 SWG, MS sheet with surface treatment Powder Coated Paint RAL 7035, Texture White, Suitable for system voltage 400/230, 50HZ, 3 Phase Copper bus bar, Neutral bus bar, Earting bus bar and internally wired., Mechanical interlocking for MCCBs, 03 No Phase Indication Lights, 220 VAC (R-Y-B) 01 No Digital Ampere Meter,01 No Ampere Selector Switch,03 No CTs 200/5A Wall Mounted DB Panel In door Type (Suitable Size) complete in all respect as approved or directed by engineer incharge.	Job	1		
2		LIGHT FIXTURES				
		(General Description) Supply, installation, testing and commissioning of following light fittings, ceiling, recessed,wall mounted as per specified fixture. Complete with internal wiring, Grounding terminal , driver complete in all respects. Lights should be of Phillips, ledvance, Sky LED or equivalent.				

Sr. No.	Item No.	Description	Unit	Qty	Unit Rate	Amount
i)	NSI	24 Watt (White) LED Light Fixture surface/recessed mounted, IP-22 rated	No.	25		
ii)	NSI	18 Watt (White) LED Light Fixture surface/recessed mounted, IP-22 rated	No.	8		
iii)	NSI	12 Watt LED Light Fixture surface/recessed mounted, IP-22 rated	No.	2		
v)	NSI	20 Watt Flood lights	No.	4		
3		MISCELLANEOUS FITTINGS				
		(General Description) Supply, installation, testing & commissioning of Ceiling/ Exhaust fan. The ceiling/exhaust fan shall comprise circular fan metallic/ plastic body, metallic fan blades, down rod (if necessary) of suitable dia & length, AC capacitor, internal wiring, terminals all installation & operational accessories as per tender specifications, as per site requirements and as per instructions by the Engineer. make GFC, Pak Fan, Royal Fan or approved equivalent.				
i)	NSI	10 " outer dia exhaust fan with plastic body, fan blades and louvers	No.	3		
4		WIRING ACCESSORIES				
		(General Description) Supply at site, installation, testing and commissioning of the following wiring accessories, complete in all respects. Made of TJ, Legrand or approved equivalent.				
i)	NSI	10 Amps, 250Volts one way, One gang light control switches including appropriate size concealed Plastic back box.	No.	1		
ii)	NSI	10 Amps, 250Volts one way, Two gang light control switches including appropriate size concealed Plastic back box.	No.	5		
iii)	NSI	10 Amps, 250Volts one way, Three gang light control switches including appropriate size concealed Plastic back box.	No.	1		
iv)	NSI	10 Amps, 250Volts one way, Four gang light control switches including appropriate size concealed Plastic back box.	No.	2		
vi)	NSI	10 Amps, 250Volts one way, Six gang light control switches including appropriate size concealed Plastic back box.	No.	2		
viii)	NSI	13 Amps, 250Volts, 3 pin flat switch socket single outlet including appropriate size Plastic back box.	No.	6		
ix)	NSI	15Amp 3Pin Round Switch Socket Outlet including appropriate size Plastic back box.	No.	2		
x)	NSI	20A DP Switch with Neon & Earth including appropriate size Plastic back box.	No.	3		
xiii)	NSI	Fan Dimmer 250 watt including appropriate size Plastic back box. with all associated accessories.	No.	6		
xiv)	NSI	Appropriate size of plastic body fan box and ceiling fan rod 24" in length	Nos	6		
xv)	NSI	MS BAR for hanging Ceiling fan	Nos	6		
5		GROUNDING SYSTEM				
i)		GROUNDING cable				

Sr. No.	Item No.	Description	Unit	Qty	Unit Rate	Amount
		Supply at site, installation, testing and commissioning of PVC insulated non armoured copper conductor cable 450/ 750 Volt grade (or otherwise mentioned in cable description) in prelaid conduits / trenches to be installed as per routes shown on drawings including cost of all necessary materials, connections, identification tags, cables lugs properly crimped at both ends for the following sizes complete in all respects. Actual length of cables to be installed shall be practically measured at site by the Contractor, duly authenticated by the Engineer before placing the order with the manufacturer, however, approximate length of cables are shown herewith. Payments shall be made as per actual length installed. Cable should be of FAST, Newage or universal cables and conduit should be of Solo,popular,easyfit or equivalent as approved by engineer incharge				
a	NSI	Supply and erection of single core PVC insulated, PVC sheathed copper conductor, 660/1100 volts grade cable, in prelaid G.I. pipe/M.S. conduits/PVC pipe/G.I. wire/trenches, etc (rate for cable only):- 6 mm sq (7/0.044")	rmtr	100		
6		Earthing				
	NSI	Supply, installation, testing and commissioning of earthing system for protecting Earthing of Rod 19 mm 10 ft long with bare solid Earth conductor 1 x 35sq.mm upto earth connecting point, inspection chamber, marconite concrete, drilling etc, to achieve less than 3 ohms specified Earthing results. complete in all respect as per drawing and specification or as per directed by Engineer.	Each	1		
9		CIVIL WORKS				
i)		Trench				
	NSI	Labour for excavation and refilling of trench 12" wide, 36" deep 4" sand, bricks and warning tape. Compaction below and above preinstalled PVC pipes if any, ramming watering all necessary material, labour etc, complete in all respect. Actual length of the trench shall be as per site condition and paid accordingly however approximate length of trench is given. as approved and directed by engineer incharge.	R.Mtr	100		
ii)		Manhole For LT Cable Pulling (If Required)				
	NSI	Construction of manholes to facilitate pulling of cables in trench or conduit as shown on drawing, manholes shall be of the size 24" x 24" x 30" deep with 9" thick wall with cement mortar, internal plaster 1:4, 100mm thick RCC cover for manhole, including cost of all accessories / materials, complete in all respects. (Tentative number of manholes have been provided, however payment shall be made as per actual and as per quantity requirement)	Nos.	2		
11		CONDUITS, PIPES, DUCT , CABLE TRAYS, FIXING CLAMPS AND FIXING ARRANGEMENTS				
		Supply, installation, testing and commisiioning of following conduits laid under floor for telephone/ data cables , optical fiber cables, Sub main power cables & earth cables including all conduit accessories. The PVC conduits shall be laid under floor including chiseling and cutting of floor for required dimensions, laying of conduit, backfilling of remaining cavity with CC as specified for floor in that area, making good, complete in all respect. conduit made of solo, popular, easyfit or equivalent as approved by engineer incharge.				

Sr. No.	Item No.	Description	Unit	Qty	Unit Rate	Amount
i)		Supply and erection PVC pipe for recessed wiring (main and sub-main) purpose, including bends, specials, etc. in floor, wall or trenches:				
a	NSI	50 mm i/d	R.Mtr	40		
TOTAL OF NON-SOR ITEMS						