

SUMMARY		
PROJECT :NATIONAL LAW SCHOOL OF INDIA UNIVERSITY, BENGALURU		
LOCATION: BENGALURU		
DESCRIPTION : PLUMBING WORKS		
SUBJECT : PLUMBING WORKS BOQ		
SL. NO	DESCRIPTION	AMOUNT
		Supply
A	SANITARY FIXTURES	-
B	INTERNAL DRAINAGE SYSTEM	-
C	INTERNAL WATER SUPPLY	-
D	EXTERNAL SEWERAGE & STORM WATER DRAIN SYSTEM	-
E	PUMPS AND ACCESSORIES	
TOTAL		-
	GST @ 18%	
	TOTAL (Supply & Installation)	-

BILL OF QUANTITIES

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A	SANITARY FIXTURES					
1	Supplying, installing, testing & commissioning at site in position colour or white glazed vitreous (European style) Water Closet with C.P. bolts, nuts, solid white plastic seat and lid, angle cock, CP tube, PVC brass hinges and rubber buffers with all necessary fittings complete including cutting and making good the walls and floors wherever required for the following units.					
a	Floor mounted EWC with Coupled Cistern.(For staff, Faculty toilet) Make: Parryware ; WC-C0297; Flush tank-E8177 Alternate make: Hindware ;WC-20147; Flush tank-511856, Jaquar; WC-LYS-WHT-38851S300UFSMN; Flush tank-JCS-WHT-2431	EACH	24		-	
b	Floor mounted EWC with Coupled Cistern.(For common toilet) Make: Parryware ; WC-C0297; Flush tank-E8177 Alternate make: Hindware ;WC-20147; Flush tank-511856 Jaquar; WC-FLS-WHT-5953PPSM; Flush tank-JCS-WHT-2431	EACH	24			
2	Supplying, installing, testing & commissioning at site in position white / colour vitreous china wash basin with C.I./MS brackets painted white, C.P brass waste coupling of standard pattern, 32mm dia C.P , cast brass bottle trap , angle cock , basin mixer/pillar cock , CP tube and union , CP tube connector including cutting & making good the walls wherever required complete.					
a	Wash basin below counter type with Pillar Cock.(For staff, Faculty toilet) Make-Parryware ; Wash basin-(oval)-C0419; Pillar cock - G3102A1; Angle Cock - G1853A1 Alternate make-Hindware ; Wash basin-(oval)-10049; Pillar cock - F360001CP; Angle Cock - F730039CP	EACH	28		-	
b	Wash basin below counter type with Pillar Cock.(For common toilet) Make-Parryware ; Wash basin-(oval)-C0419; Pillar cock - G3102A1; Angle Cock - G1853A1 Alternate make-Hindware ; Wash basin-(oval)-10049; Pillar cock - F360001CP; Angle Cock - F730039CP	EACH	28			
3	Supplying, installing, testing & commissioning at site in position white glazed earthen ware flat lipped front urinal of 270x360x440 mm or nearest size (Indian make best quality with pressmatic tap to be provided , flush pipe 25mm dia of required length with a 15mm lead and brass connection with brass union, bottle trap and GI clamps complete cutting and making good walls and floors.				-	

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a	(For staff, Faculty toilet) Make-Parryware ; Urinal-C0501; Urinal valve-G2007A1; Bottle trap-T3201A1 Alternate make-Hindware ; Urinal-60001; Urinal valve-F310016CP; Bottle trap-F850015CP Jaquar ; Urinal-URS-WHT-13261; Urinal valve-PRS-CHR-073; Bottle trap-ALD-WHM-769L300X190	EACH	12			
b	(For common toilet) Make-Jaquar; Urinal-URS-WHT-13261H; Urinal valve-PRS-CHR-077; Bottle trap-ALD-WHM-769L300X190	EACH	18			
4	Supplying, installing, testing & commissioning at site in position C.P. ablution spray health faucet with eye hook ,one metre long flexible tube, angle cock with wall flange all complete including cutting and making good the walls wherever required.				-	
a	(For staff, Faculty toilet) Make-Parryware; Health faucet-T9806A1; Angle valve-T9828A1 Alternate make-Hindware; Health faucet-F160108CP; Angle valve-F860007CP	EACH	24			
b	(For common toilet) Jaquar;	EACH	24			
5	Supplying, installing, testing & commissioning at site in position stainless steel sink supported by heavy duty S.S brackets, CP waste coupling, complete including and making good the walls wherever required.	EACH	0		-	Under progress, After receiving Kitchen details shall be updated
a	Stainless Steel Sink with Drain Board Make-Parryware; Sink Mixer-G3235A1 / Alternate: G0235A1; Sink with drain-C857381 Alternate make-Hindware; Sink Mixer-F690027CP / Alternate: F730023CP; Sink with drain-Platino	EACH	-		-	
b	Stainless Steel Sink without Drain Board Sink-Make-Parryware: C856971 Alternate make-Hindware; F730023CP; Sink with drain-Flamingo Mixer - Make-Jaquar: FLR-CHR-5166 Alternate make - Essel - 181007	EACH	-		-	
6	Supplying, installing, testing & commissioning at site in position 15 mm dia angle valve with CP wall flange etc complete Make-Parryware; Model-T9828A1 Alternate make: Hindware; Model-F860007CP	EACH	52		-	For Washbasin and Health faucet

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7	Supplying, installing, testing & commissioning at site in position Toilet paper holder fixed to the wall by means of screws and rawl plug embedded in the walls complete including cutting and making good the walls wherever required. Make-Parryware; Paper Holder-WPT6906A1 Alternate make-Hindware; Paper Holder-F580009CP	EACH	23		-	
8	Supplying, installing, testing & commissioning at site in position Soap dispenser etc complete Make-Parryware; Model-T6513A1	EACH	29		-	
9	Grab Bars (45 cm) Make-Euronics ; Model / Catalogue no-Euronics-EGRO1	EACH	9		-	
	Grab Bars Make-Euronics ; Model / Catalogue no-Euronics-EGRS02(foldable)	EACH	9		-	

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	C/O SUMMARY of A				-	
B	INTERNAL DRAINAGE					
10	Supplying, Installing & Testing at site in position uPVC pipe (SWR) of Type B (IS:13592) including injection moulded fittings with bosses where required e.g. tees, bends, clamps couplings and adapters & clamping with Universal clamps, Anchor fasteners (8mm), Threaded Rod(8mm), nuts, washers etc complete; and jointing with adhesive approved by manufactures including cutting and making good the walls and floors or surface mounted with clamps as required at site					
a	160mm OD	METRE	RO		-	
b	110mm OD	METRE	127		-	
c	75 mm OD	METRE	165		-	
d	50 mm (IS 4985,6kgf/cm ²)	METRE	8		-	
e	40 mm (IS 4985,6kgf/cm ²)	METRE	21		-	
11	Supplying, Installing & Testing at site in position uPVC pipe (SWR) of Type B (IS:13592) including SWR fittings with bosses where required e.g. tees, bends, clamps, couplings and adapters and cowls with sealing grooves and clamping with Position & jointing with 'O' rings including cutting and making good the walls and floors as required at site (For Vertical & Horizontal Shaft piping) .					
	Clamping details - For Vertical Shafts					
	G.I. "U" bolts (8 mm thick) on G.I. slotted rails (1.6 / 2.5 mm thick) , Rail legs (2.5 mm thick)					
	Clamping details - For Suspended lines					
	G.I. "U" bolts (8 mm thick) on Heavy Duty G.I. slotted rails (2.5 mm thick) or Clamping with Universal clamps, Anchor fastners(10mm), Threaded Rod(10mm), nuts, washers etc complete.					
a	160mm OD	METRE	RO		-	
b	110mm OD	METRE	61		-	
c	75 mm OD	METRE	76		-	
d	63 mm OD	METRE	68		-	

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12	Supplying, Installing, Testing & Commissioning at site in position uPVC multi inlet trap (ht 4") with Floor Drain grating with Stainless Steel (SS - 304) Top Grating and cocroach trap fixed on a bed of cement concrete with Necessary accessories.,etc. etc including cutting and making good the walls and floors as required at site.					
a.	110x75mm dia out let	EACH	85		-	
b.	110x50mm dia out let	EACH	12		-	
13	Supplying, Installing, Testing & Commissioning at site in position 110mm dia deep seal PVC 'U' trap with access cap Including all necessary fittings & supports complete	EACH	-		-	
14	Supplying, Installing & Testing at site in position uPVC pipe (SWR) of Type B(IS:13592) including SWR fittings with bosses where required e.g. tees, bends, clamps, couplings and adapters and cowl with sealing grooves and clamping with Position & jointing with 'O' rings including cutting and making good the walls and floors as required at site (Kitchen Drainage).					
a	150 mm dia	EACH	RO		-	Under progress, After receiving details shall be updated
b	100 mm dia	EACH	RO		-	
c	75 mm dia	EACH	RO		-	
d	50 mm dia	EACH	RO		-	
15	Supplying & Fixing 110mm dia deep seal 'P' trap with access cap Including all necessary fittings & supports complete (For Kitchen Drainage).	EACH	RO		-	Under progress, After receiving details shall be updated
16	Supply Installation , Testing & commissioning of Floor Drain grating with Stainless Steel (SS - 304) Top Grating and cocroach trap fixed on a bed of cement concrete with Necessary accessories.,etc. MAKE; VIKING-HSN Code73269030					
a	125 x 125mm Square	EACH	97		-	
17	Supplying & Installing at site in position 125 X 125 mm square cast SS (304 grade) cleanout with Teflon gasket & SS key for opening, complete in all respects. MAKE; VIKING-HSN Code73269030	EACH	20		-	

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	C/O SUMMARY of B				-	
C	WATER SUPPLY					
18	Supplying & Laying of uPVC unthreaded pipes (As per ASTM D - 1785, Sch 40 pipes of approved make for water supply, complete with all necessary Fittings (elbows, unions, tees, reducers, couplings, nipples etc.) wherever necessary, and conveying to position, cleaning, laying and jointing to true lines and gradients, ,jointing the pipe line as per specification, testing the pipe line after installation to the specified hydrostatic test pressure etc. complete.					
a	15mm,	METER	RO		-	
b	20mm,	METER	RO		-	
c	25mm,	METER	RO		-	
d	32mm,	METER	RO		-	
e	40mm,	METER	RO		-	
f	50mm,	METER	11		-	
g	65mm,	METER	RO		-	
h	80mm,	METER	RO		-	
19	Supplying, Installing & Testing at site in position CPVC Pipes as per IS:15778 (SDR-11) of approved make for water supply, complete with all necessary Fittings (elbows, unions, tees, reducers, couplings, nipples etc.) complete with clamping in position with G.I. "U" bolts (8 mm thick) on G.I. slotted rails (1.6 mm thick) , Rail legs (2.5 mm thick) of approved make, as per drawings to the satisfaction of the Project Manager including supply of all materials.					
a	15 mm dia SDR-11	METRE	RO		-	
b	20 mm dia SDR-11	METRE	999		-	
c	25 mm dia SDR-11	METRE	172		-	
d	32 mm dia SDR-11	METRE	14		-	
e	50 mm dia SDR-11	METRE	305		-	
f	65 mm dia SDR-11	METRE	61		-	

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20	Supplying, Installing & Testing at site in position full way lever operated Forged Brass Ball valve of brass body IS:6912FLB with forged brass hard chrome plate (PN 25) of approved make with necessary Male Adapter (Brass Threads) fittings in position as per drawings.					
a	15 mm dia	EACH	RO		-	
b	20 mm dia	EACH	18.00		-	
c	25 mm dia	EACH	13.00		-	
d	32 mm dia	EACH	4.00		#REF!	
e	40 mm dia	EACH	3.00		-	
f	50 mm dia	EACH	19.00		-	
21	Supplying, Installing & Testing at site in position IS:13095 Butterfly valve (PN 16) wafer type of approved make with necessary PVC flanges, gaskets, nuts and bolts etc complete within position as per drawings.					
a	65 mm dia	EACH	3		-	
b	80 mm dia	EACH	RO		-	
c	100 mm dia	EACH	RO		-	
22	Supplying, Installing & Testing at site in position spring loaded Brass Non Return Valve (PN-16) screw type with necessary fittings complete in all respect.					
a	25 mm dia	EACH	RO		-	
b	32 mm dia	EACH	RO		-	
c	40 mm dia	EACH	RO		-	
d	50 mm dia	EACH	3		-	
e	65 mm dia	EACH	1			

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23	Supplying, Installing & Testing at site in position IS:5312 CI Wafer Swing type check Valve (PN-16) type with necessary fittings complete in all respect.					
a	50 mm dia	EACH	2		-	
b	65 mm dia	EACH	RO		-	
c	80 mm dia	EACH	RO		-	
24	Supplying, Installing & Testing at site in position spring loaded vertically mounted brass Air Release Valves , Ball valve of approved quality and make on the top of the vertical water supply pipes as per specification and drawings.					
a	20 mm dia	EACH	14		-	
25	Supply, Installation, Testing and Commisioning of MS Y-type stainer with drain plug , SS screen 304 complete in all respects.					
a	40 mm dia	EACH	RO		-	
b	50 mm dia	EACH	3		-	
c	65 mm dia	EACH	1		-	
26	Supply & fixing at site in position Multi Jet water meter of removable mechanism type ,magnetically coupled ,having dry dial, hermetically sealed totaliser, retrofittable for pulse output and conforming to ISO-4064 Class B complete.					
a	32 mm dia	EACH	RO		-	
b	40 mm dia	EACH	RO		-	
c	50 mm dia	EACH	1		-	
C/O SUMMARY of C					#REF!	

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D	EXTERNAL SEWERAGE & STORM WATER DRAIN					
27	Supplying, Installing & Testing of pipes and conveying to position; and jointing to true lines and gradients, PVC pipe of IS 4985(6kg/cm2) , jointing the pipe line as per specification, testing the pipe line after installation to the specified hydrostatic test pressure including Supplying, Supplying, Installing specials like bends, couplers, sockets, connections etc. as per provisions of IS: 1742-1983 (Code of practice for building drainage) complete.					
a	250mm OD IS 4985(6kg/cm2)	METER	RO		-	
a	200mm OD IS 4985(6kg/cm2)	METER	270		-	
b	160mm OD IS 4985(6kg/cm2)	METER	577		-	
c	110mm OD IS 4985(6kg/cm2)	METER	195		-	
d	75mm OD IS 4985(6kg/cm2)	METER	RO		-	
36	Supplying, Installing, Testing & Commissioning at site in position Cast Iron Hubless Pipes (IS:15905, ISO 6594) of approved make for Drainage, complete with all necessary Fittings of approved make jointing with necessary shielded coupling (SS304), as per drawings to the satisfaction of the Project Manager. (External Kitchen Drainage) .					Under progress, After receiving details shall be updated
a	150 mm dia	EACH	RO		-	
b	100 mm dia	EACH	RO		-	
38	Excavation of earth up to a depth of 1.5m in all classes of soil for pipe laying trenches, shoring, dewatering, etc., wherever necessary including supply of all materials.	m ³	RO		-	Under progress, Shall be updated after working on levels
39	Cement concrete1:5:10 (1 cement 5 sand and 10 broken stones) using 20 mm granite broken stones for concreting horizontal pipes in the trenches ,hire and labour charges for form work ,watering for curing etc complete as per the satisfaction of the Project Manager including supply of all materials.	m ³	RO		-	Under progress, Shall be updated after working on levels

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40	Supplying, Installing, Testing & Commissioning at site in position brick masonry Catch basin with 75 class designation bricks in cement mortar 1:5 (1cement :5coarse sand)inside and outside cement plaster 12mm thick with cement mortar 1:3 (1cement : 3 coarse sand) inside with a floating coat of neat cement, water proofing the same with water proofing chemical compound, 15cm thick R.C.C top slab 1:2:4 mix (1 cement: 2 coarse sand: 4 graded stone aggregate 20mm nominal size) for fixing manhole frame; foundation concrete 1:4:8 mix (1 cement: 4 coarse sand: 8 graded stone aggregate 40mm nominal size) and making channels in cement concrete 1:2:4 mix (1 cement: 2 coarse Sand: 4 graded stone aggregate 20mm nominal size) including excavation, back filling and disposal of surplus earth finished as per standard design etc. The rate should include the silt trap in the storm water chamber, where the depth of the chamber will be 2 inch lower from the pipe invert levels.					
a	45 X 45 cms (18" X 18") self pigmented type double seal (air & water tight) FRP manhole cover and frame (5MT) with closed bottom (not thru & thru) lifting key holes & load tested as per IS:1726 & BS EN:124.	EACH	1		-	Same shall be updated after infra dwg update
b	60 X 60 cms (24" X 24")dia self pigmented type double seal (air & water tight) FRP manhole cover and frame (5MT) with closed bottom (not thru & thru) lifting key holes & load tested as per IS:1726 & BS EN:124.	EACH	13		-	
c	Pressure braking manholes of size 60 X 60 cms (24" X 24") self pigmented type double seal (air & water tight) FRP manhole cover and frame (5MT) with closed bottom (not thru & thru) lifting key holes & load tested as per IS:1726 & BS EN:124.	EACH	RO		-	
41	Supplying, Installing & Testing at site in position best quality PVC gully trap of size 160 X110mm outlet embedded in plain cement concrete 1:4:8 (20mm metal), all the above encased in a chamber of 300 X 300mm built with 115mm thick brick masonry using first class country bricks in CM 1:3 over a bed of CC 1:4:8 using 40mm size metal 100mm thick ,plastering with CM1:3,13mm thick inside, outside, exposed top surfaces and internal and top exposed surface finished smooth with a floating coat of neat cement, providing and fixing FRP manhole cover and frame (10 MT) with closed bottom (not thru & thru) lifting key holes & load tested as per IS:1726 & BS EN:124 of size 300 X 300mm (12" x 12") weighing not less than 10 MT fixing the frame in PCC 1:2:4 using 20mm stone metal including painting the frame and cover with 2 coats of anticorrosive black bitumastic painting etc. complete all as specified and directed. "The rate should be inclusive of cockroach trap grating" Make: CHILLY / NEER	NOS	8		-	
42	Same as specification of Item No.41, but with self pigmented type double seal (air & water tight) FRP manhole cover and frame of size 450 X 450 mm weighing not less than 5 MT	EACH	8		-	

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43	Providing, laying, jointing testing and commissioning of and RCC hume pipes (NP2 class) conforming to IS: 458 with collar joint in CM 1:3 packing the collar joints with asbestos rope dipped in cement slurry, finishing the surface smooth etc complete. The cost should include the sand bed required for pipe fixing.					
a	200 mm	METER	RO		-	
b	300 mm	METER	RO		-	
c	600 mm	METER	RO		-	
44	Supply & Construction of valve chamber with 230 mm Brick masonry wall with best quality TM bricks & CM 1:4, on a PAC 1:4;8 bed of 100 mm thick. The wall shall be plastered internally smooth in CM 1:3, water proofing as required and externally rough plastered with sponge finish, including curing. The chamber shall be provided with M.S. 6 / 8 mm thick plate fabricated top cover in leaves with necessary hinges and locking arrangement. The size of the chamber shall be 1000mm x 1000mm x1000mm in depth.	NOS	RO		-	
45	Supplying, Installing, Testing & Commissioning at site in position inspection chamber , base unit manufactured in tough polypropylene material comprised of two swept inlets at 90° of 160mm and two swept inlets at 45° with a 110 mm along with 160 mm each straight inlet and outlet, with 110 mm & 160 mm end caps to plug off unused inlets, upto a height of 900 mm using 450mm dia riser shaft pipe provided with 450 mm Class A circular type frame and cover made of toughened polypropylene, including excavation, backfilling and disposal of surplus earth finished as per standard design etc. (Only for pedestral walkways)					
a	600mm X 600mm	NOS	8		-	
b	900mm dia manhole	NOS	8		-	
46	Supplying, Installing, Testing & Commissioning of electrical driven Booster pump at terrace level	NOS	RO			
47	Supply of MS Grating with 2 coats of primer for trench drain and sump of following width over a entire channel along with angle support as required along with all accessories as specified and shown in drawings.					
a	200 mm width	RMT	32			
b	300 mm width	RMT	58			
C/O SUMMARY of D				-	-	