

	ह.स.क.क. HSCC					
	Design & Engineering Department					
	Name of Work:BOQ of Plumbing work of Animal House at IIIM,Jammu					
Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
	Note: Based on the tender drawing the agency has to prepare the internal & external plumbing shop drawing and obtain the approval of the same before execution					
1.00	SANITARY FIXTURES					
1.01	Providing & fixing water closet squatting pan(Indian W.C.Pan)with 100 mm sand cast iron P or S strap,10 Litre low level white P.V.C flushing cistern with manually controled device(handle lever) conforming to IS:7231 with all fittings&fixture complete including cutting and making good the walls & floors wherever required.					
a)	White vitreous china orissa pattern W.C. pan of size 580 x 440 mm with integral type foot rests.	Each	1.0			
1.02	Providing and fixing white vitreous china pedestal type water closet (European type) with seat and lid, 10 litre low level white vitreous flushing cistern and C.P. flush bend with fittings & C.I. brackets, 40mm flush bend, overflow arrangement with specials of standard make and mosquito proof coupling of approved municipal design complete including painting of fittings and brackets, cutting and making good the walls and floors wherever required:					
a)	W.C. pan with ISI black solid plastic seat & lid.	Each	10.0			

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1	3	4	5			
1.03	Providing and fixing white vitreous China flat back or wall corner type lipped front urinal basin of 430x260x350 mm and 340x410x265 mm sizes respectively with automatic flushing cistern with standard flush pipe and C.P. brass spreaders with brass unions and G.I. clamps complete, including painting or fittings and brackets, cutting and making good the walls and floors wherever required.					
b)	Range of two urinal basin with 5 litre white PVC automatic flushing cistern.	Each	1.0			
c)	Range of three urinal basin with10 litre white PVC automatic flushing cistern.	Each	1.0			
1.04	Providing and fixing wash basin with C.I. brackets, 15mm C.P. brass pillar taps, 32mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever required:					
a)	White vitreous china wash basin size 550x 400 mm with a pair of 15mm C.P. brass pillar tap.	Each	12.0			
1.05	Providing and fixing Stainless Steel A ISI 304 (18/8) kitchen sink as per IS 13983 with C.I. brackets and stainless steel plug 40 mm including painting of fittings and brackets, cutting and making good the walls wherever required:					
a)	Kitchen sink withou drain board					
a)i)	610x510 mm bowl depth 200 mm.	Each	2.0			
1.06	Extra for using coloured W.C. pan instead of white W.C pan					

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a)	Orissa pattern W.C. pan 580x440 mm	Each	1.0			
1.07	Extra for using coloured pedestal type W.C. pan (European type) with low level cistern of same colour instead of white vitreous china W.C. pan and cistern	Each	10.0			
1.08	Providing and fixing superior glass (of approved quality) and of required shape and size with plastic moulded frame of approved make and shape with 6 mm thick hard board backing.					
a)	Rectangular shape 453x357 mm	Each	12.0			
1.09	Providing and fixing 600x120x5 mm glass shelf with edges round of supported and anodised alominium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc., complete.	Each	12.0			
1.10	Providing and fixing toilet paper holder .					
a)	Vitreous china	Each	10.0			
1.11	Providing and fixing PTMT liquid soap container 109 mm wide, 125 mm high and 112 mm distance from wall of standard shape with bracket of the same materials with snap fittings of approved quality and colour weighing not less than 105 gms.	Each	12.0			
1.12	Providing and fixing water Jet Nozzle with hose pipe and haif turn CP brass angle valve to be fitted with seat cover of european water closet complete in all respect of approved quality	Each	10.0			

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1	3	4	5			
1.13	Providing and fixing soap tray with CP brass lid and brackets fixed to wooden cleats with CP brass screws.(Jaquar model no.1131 or equivalent model of other approved make).	Each	1.0			
1.14	Providing and fixing CP brass towel rail size of 600x20 mm of approved make complete with CP brackets fixed to wooden cleats with CP brass screws(Jaquar model no.1111 or equivalent model of other approved make)	Each	4.0			
1.15	Providing and fixing brass coat hook of approved quality and make complete with material of fixing	Each	10.0			
1.16	Extra for providing and fixing white vitreous china oval shape wash basin in place of normal wash basin with CI/MS brackets painted white, 15 mm CP brass pillar taps, 32 mm CP brass waste of standard pattern, including painting of fittings and brackets cutting and making good the walls wherever required					
a)	Counter top oval shape wash basin size 550x470 mm with centre tap hole, single 15 mm CP brass swan neck type pillar tap	Each	15.0			
1.17	Providing and fixing stainless steel grab bar 20mm dia of required length minimum 600 mm with PVC cleats, C.P. brass screws etc. complete.	Each	2.0			
1.18	Providing and fixing vitreous china division plate of size 960x165x325 mm of approved make and design including brass cleats, C.P. brass screws all fittings etc. complete in all respect	Each	10.0			

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1	3	4	5			
1.19	Automatic animal watering system fixture to be fixed in all the rooms of animal house as per approved model and make used in the latest animal house.	Each	5.0			
1.20	Providing and fixing SS laboratory sink counter type with 80 mm trap,waste,vent hot and cold water connections,faucets,drain and tail pieces complete in all respect.	Each	8.0			
1.21	Providing and fixing SS under counter laboratory sink with working platform of 1 metre long, 80 mm trap, waste,vent hot and cold water connections, faucets, drain and tail pieces.	Each	2.0			
	SUB TOTAL(SANITARY FIXTURES)					

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1	3	4	5			
2.00	SOIL, WASTE AND VENT PIPES					
2.01	Providing and fixing soil, waste and vent pipes.					
a)	100 mm dia.					
a i)	Centrifugally cast (spun) iron socketed pipe as per IS:3989	Metre	300.0			
2.02	Providing and fixing M.S holder-bat clamps of approved design to Sand Cast iron/ cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc.					
a)	for 100 mm dia. pipe	Each	18.0			
2.03	Providing and fixing bend of required degree with access door, insertion rubber washer 3 mm thick, bolts and nuts complete.					
a)	100 mm					
a ii)	Sand cast iron S&S as per IS-3989	Each	35.0			
2.04	Providing and fixing plain bend of required degree.					
a)	100 mm					
a ii)	Sand cast iron S&S as per IS:3989	Each	45.0			
2.05	Providing and fixing heel rest sanitary bend.					
a)	100 mm dia					

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1	3	4	5			
a.ii)	sand cast iron S&S as per IS-3989	Each	6.0			
2.06	Providing and fixing single equal plain junction of required degree with access door, insertion rubber washer 3mm thick, bolts and nuts complete.					
a)	100x100x100mm					
a.ii)	sand cast iron S&S as per IS-3989	Each	6.0			
2.07	Providing and fixing single equal plain junction of required degree					
a)	100x100x100mm					
a.ii)	sand cast iron S&S as per IS-3989	Each	22.0			
2.08	Providing and fixing door piece, insertion rubber washer 3mm thick, bolts and nuts complete					
a)	100 mm					
a.ii)	sand cast iron S&S as per IS-3989	Each	5.0			
2.09	Providing and fixing terminal guard.					
a)	100 mm	Each	6.0			
a.ii)	sand cast iron S&S as per IS-3989					
2.10	Providing and fixing collar					
a)	100 mm					

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a.ii)	Sand cast iron S&S as per IS-3989	Each	12.0			
2.11	Providing lead caulked joints to sand cast iron /centrifugally cast (spun) iron pipes and fittings of diameter:					
a)	100 mm	Each	345.0			
2.12	Providing Drip seal joint of approved make for the sand cast iron/centrifugally cast iron pipes where the workability of lead joint can be effected due to space constraints.					
a)	100 mm	Each	145.0			
2.13	Providing and fixing M.S. stays and clamps for sand cast iron / centrifugally cast (spun) iron pipes of diameter :					
a)	100 mm	Each	6.0			
2.14	Providing and fixing trap of self cleansing with screwed down or hinged grating with or without vent arm complete, including cost of cutting and making good the walls and floors:					
a)	100 mm inlet and 100 mm outlet					
a i)	Sand cast iron S&S as per IS-3989	Each	45.0			
2.15	Cutting chases in brick masonry walls for following diameter sand cast iron/centrifugally cast (spun) iron pipes and making good the same with cement concrete 1:3:6 (1 cement:3 coarse sand:6 graded stone aggregate 12.5 mm nominal size) including necessary plaster and pointing in cement mortar 1:4 (1 cement: 4 coarse sand):					
a)	100 mm diameter pipe	Metre	10.0			

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1	3	4	5			
2.16	Painting sand cast iron / centrifugally cast (spun) iron soil, waste vent pipes and fittings with paint of any colour such as chocolate, grey, or buff etc. over a coat of primer (of approved quality) for new work:					
a)	100 mm diameter pipe	Metre	100.0			
2.17	Providing and fixing floor drain points formed out of 65 mm dia GI elbow, including with 75mm dia Stainless Steel grating with frame, embedded in floor, all complete as directed.	Each	5.0			
2.18	Providing and fixing C.P. brass bottle trap for wash basin including CP waste fittings complete 32 mm dia complete in all respect of approved quality.	Each	12.0			
2.19	Providing and fixing C.P. brass bottle trap for sinks & urinal basin including CP waste fittings complete 40 mm dia complete in all respect of approved quality.	Each	18.0			
2.20	Providing and laying cement concrete 1:2:4 (1 cement:2 coarse sand:4 graded stone aggregate 20 mm nominal size) 80 mm thick all-round the SCI/centrifugally S&S pipe diameter.					
a)	100 mm dia	Metre	225.0			
2.21	Providing and fixing dash fastner made of rust proof plated steel for holding the soil/waste supply pipes complete in all respect					

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1	3	4	5			
a)	Dash fastner for pipe more than 25 mm dia to 150 mm dia pipe of required size but not less than size 8 mm dia and 40 mm long minimum & shall be capable of taking 6 tonnes load and also include the supporting angles 35x35x5 mm/approved steel structures support as per drawing/as approved by Engineer-incharge.	Each	100.0			
2.22	Providing and fixing floor clean out plug consist of CI bend & GI socket heavy class with Brass cap & key for opening male threaded cap etc. including lead caulked to CI pipescomplete in all respects as per drawing/ sample approved by Engineer -in - ChargeFCO (floor clean out plug shall be flushed with floor finish					
	100 mm dia/150 mm dia	Each	2.0			
2.23	Providing and fixing clean out plug consist of GI socket/nipple heavy class with threaded pludge for opening male threaded cap etc. including lead caulked to CI pipescomplete in all respects as per drawing/ sample approved by Engineer -in -Charge					
	100 mm dia/150 mm dia	Each	4.0			
2.24	Providing and fixing G.I EXTENSION PIECE for 100 mm dia floor trap formed out of main pipe(Type A) with multiple side inlets, suitable for various dia pipes, side connections, including all fixtures and fittings as per site conditions and as per standard details and water tight sealing of joints and area surrounding the grating and as directed.	Each	45.0			

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1	3	4	5			
2.25	Providing and fixing cPVC. pipes complete with cPVC fittings including painting,jointing,testing the cost of cutting the chases and making good the same for waste water disposal complete as per direction of engineer incharge.					
a)	32 mm dia nominal bore (Wash basin to floor trap/floor drain)	Metre	15.0			
b)	40 mm dia nominal bore (Sink,Urinal to floor trap)	Metre	25.0			
c)	50 mm dia nominal bore (Floor Drain to Floor Trap)	Metre	10.0			
2.26	Providing and fixing WC connector socket(for vitreous china & CI pipe) of EDPM good quality with polypropelene body 100x150/100x250 of approved quality and make complete in all respect.	Each	10.0			
2.27	Providing & fixing SS floor trap grating 143x143x5mm thick screwablewith SS fixed frame of 150x150 mm size as per approved make & model	Metre	10.0			
2.28	Providing and laying Laboratory/hospital effluent waste pipe and fitting of high density polyethelene (HDPE),CLASS -PE 100 ,pressure rating PN-10,conforming to IS :4984, electric fusion joints/flanged joints , fittings which includes bends,,junctions,cowls,offsets,access pieces.etc. complete including jointing.					
	50 mm dia	Metre	25.0			
	80 mm dia	Metre	50.0			
	100 mm dia	Metre	70.0			
	150 mm dia	Metre	120.0			
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1	3	4	5			
3.00	WATER SUPPLY					
3.01	Providing and fixing Chlorinated Polyvenyl Chloride(CPVC)pipes having thermal stability for hot & cold water supply including all CPVC plain &brass threaded fittings i/c fixing the pipe with clamps at 1.0 m spacing.This includes jointing of pipes &fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints ciomplete as per direction of Engineer in charge.					
	Internal work – Exposed on wall					
a)	15 mm nominal outer dia pipes (SDR-11)	Metre	25.0			
b)	20 mm nominal outer dia pipes (SDR-11)	Metre	60.0			
c)	25 mm nominal outer dia pipes (SDR-11)	Metre	125.0			
d)	32 mm nominal outer dia pipes (SDR-11)	Metre	100.0			
e)	40 mm nominal outer dia pipes (SDR-11)	Metre	25.0			
f)	50 mm nominal outer dia pipes (SDR-11)	Metre	60.0			
3.02	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.					
	Concealed work including cutting chases and making good the walls etc.					
a)	15 mm nominal outer dia pipes (SDR-11)	Metre	135.0			

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1	3	4	5			
b)	20 mm nominal outer dia pipes (SDR-11)	Metre	80.0			
c)	25 mm nominal outer dia pipes (SDR-11)	Metre	15.0			
d)	32 mm nominal outer dia pipes (SDR-11)	Metre	10.0			
e)	40 mm nominal outer dia pipes (SDR-11)	Metre	20.0			
3.03	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.					
	External Work					
a)	25 mm nominal outer dia pipes	Metre	10.0			
b)	50 mm nominal outer dia pipes	Metre	20.0			
c)	62.5 mm nominal inner dia pipes	Metre	10.0			
3.05	Making connection of G.I. distribution branch with G.I. main of following sizes by providing and fixing tee, including, cutting and threading the pipe etc. complete including obtaining approval for connection scheme from DJB/Municipal corporation :					
a)	50 to 80 mm nominal bore	Each	2.0			
3.06	providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end)					

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1	3	4	5			
a)	25 mm nominal bore	Each	12.0			
b)	32 mm nominal bore	Each	8.0			
c)	40 mm nominal bore	Each	2.0			
d)	50 mm nominal bore	Each	2.0			
3.07	Providing and fixing ball valve (brass) of approved quality, High or low pressure with plastic floats complete					
a)	20mm	Each	5.0			
3.08	Providing and fixing brass ferrule with C.I. mouth cover including boring and tapping the main					
a)	40 mm nominal bore	Each	2.0			
3.09	Providing and fixing unplasticised PVC connection pipe with brass unions:					
a)	45 cm length					
a i)	15 mm nominal bore	Each	40.0			
3.11	Constructing masonry chamber 30x30x50 cm, inside with 75 class designation brick work in cement mortar 1:4 (1 cement: 4 coarse sand) for stop cock, with C.I. surface box 100x100x75 mm (inside) with hinged cover fixed in cement concrete slab 1:2:4 mix (1 cement: 2 coarse sand:4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement:5 fine sand: 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement :3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design					

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1	3	4	5			
a)	With F.P.s bricks	Each	2.0			
3.12	Constructing masonry chamber 60x60x75 cm, inside with 75 class designation brick work in cement mortar 1:4 (1 cement: 4 coarse sand) for sluice valve, with C.I. surface box 100mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with chained lid and RCC top slab 1:2:4 mix (1 cement: 2 coarse sand:4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement:5 fine sand: 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement :3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design					
a)	With F.P.s bricks	each	2.0			
3.13	Painting CPVC/G.I. pipes and fittings with synthetic enamel white paint over a ready mixed priming coat, both of approved quality for new work					
a)	15 mm nominal outer dia pipes	Metre	25.0			
b)	20 mm nominal outer dia pipes	Metre	60.0			
c)	25 mm nominal outer dia pipes	Metre	125.0			
d)	32 mm nominal outer dia pipes	Metre	100.0			
e)	40 mm nominal outer dia pipes	Metre	25.0			
f)	50 mm nominal outer dia pipes	Metre	60.0			
3.14	Painting G.I. /CPVC pipes and fittings with two coats of anti-corrosive bitumastic paint of approved quality.					
a)	25 mm diameter pipe	Metre	10.0			
b)	50 mm diameter pipe	Metre	20.0			

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1	3	4	5			
c)	65 mm diameter pipe	Metre	10.0			
3.15	Providing and filling sand of grading zone V or coarser grade all-round the G.I./CPVC pipes in external work					
a)	25 mm diameter pipe	Metre	10.0			
b)	50 mm diameter pipe	Metre	20.0			
c)	65 mm diameter pipe	Metre	10.0			
3.16	Providing and placing on terrace (at all floor levels) polyethylene water storage tank ISI:12701 marked with cover and suitable locking arrangement and making necessary holes for inlet, outlet and overflow pipes but without fittings and the base support for tank					
	Treated water Tank and Untreated water tank	per litre	12500.0			
3.17	Providing and fixing C.P brass bib cock of approved quality.					
a)	15 mm nominal bore	Each	10.0			
3.18	Providing and fixing C.P. brass long nose bib cock of approved quality conforming to IS standards and weighing not less than 810 gms.					
a)	15 mm nominal bore	Each	5.0			
3.19	Providing and fixing C.P. brass angle valve for basin mixer and geyser/cisterns points of approved quality conforming to IS:8931.					
a)	15 mm nominal bore	Each	40.0			

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3.20	Providing and fixing C.P. brass stop cock (concealed) of standard design and of approved make conforming to 18:8931.					
a)	15mm nominal bore.	Each	8.0			
3.20	Providing and fixing enclosed type water meter (bulk type) conforming to IS : 2373 and tested by muncipal board complete with bolts,nuts rubber, insersions etc. (the tail plases if required will be paid seperatly)					
a)	80mm dia nominal bore	Each	1.0			
3.21	Providing and fixing PTMT ball cock of approved quality, colour and make complete with Epoxy coated aluminium rod with L.P./H.P.H.D. plastic ball.					
a)	40 mm nominal bore, 206 mm long weighin not less than 690 gms	Each	2.0			
b)	50 mm nominal bore, 242 mm long weighin not less than 1240 gms	Each	2.0			
3.22	Cutting holes upto 30x30 cm in walls including making good the same					
	with F.P.S bricks	Each	10.0			
3.23	Cutting holes up to 15x15 cm in R.C.C. floors and roofs for passing drain pipe etc. and repairing the hole after insertion of drain pipe etc. with cement concrete 1:2:4 (1 cement:2 coarse sand: 4 graded stone aggregate 20 mm nominal size) including finishing complete so as to make it leak proof	Each	10.0			

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1	3	4	5			
3.24	Extra for providing wash basin mixer pillar tap in place of normal pillar tap	Each	15.0			
3.25	Extra for providing and fixing CP brass push type pillar tap of approved make and model in place of normal pillar tap.	Each	15.0			
3.26	Providing & fixing full way lever operated forged brass ball valve of brass body with forged brass hard chrome plated steel ball tested to a pressure not less than 10 Kg / sqcm with threaded / flanged joints complete with nuts, bolts, gaskets, washers etc.					
a)	15 mm diameter	Each	5.0			
b)	20 mm diameter	Each	10.0			
3.27	Providing and fixing mosquito proof coupling of approved Municipal design for scour and vent pipes for RCC overhead tanks complete in all respects					
a)	20 mm diameter	Each	2.0			
c)	40 mm diameter	Each	2.0			
d)	50 mm diameter	Each	2.0			
3.28	Providing & fixing 9 mm thick thermal insulation tubing of elastomeric flexible material on hot water supply/return pipes having hermetic blistered closed cell structure of expanded synthetic rubber over pipes/ fitting as per manufacturer's specifications etc.complete.					
a	15 mm to 25 mm diameter	Meter	10.0			
b)	32 mm to 50 mm diameter	Meter	5.0			

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3.29	Providing and fixing C.P. brass Overhead (Rain Fall) shower (100mm) with arm and wall flange complete including cutting and making good the walls wherever required.	Each	4.0			
3.30	Extra for providing and installing INFRA-RED controlled electrically operated (220V, AC mains) automatic flushing system of approved make instead of urinals with flushing cistern. The automatic flushing system shall comprising of :					
	Light sensing device fixed in recessed metallic box with tamper resistant stainless steel outercase Solenoid valve housed in a recessed metallic box with openable cover mounted at high level (at desired height from finished floor level) complete with interconnecting control wiring in recessed PVC conduit between solenoid valve and sensing unit, including cutting and making good the walls & floor complete and all necessary fittings to make it operational as directed	Each	5.0			
3.31	Providing & fixing solid state fully hygienic no touch hand drier of approved make rated for continuous repeat usage with solid state time delay LSF protection, with independent ambient light level & seasonal control temperatures including providing necessary C.I./M.S. brackets painted with two or three coats of enamel paint of approved shade over a coat of primer, wiring cables from drier to plug, plug tops etc. complete including cutting and making good the walls wherever required.	Each	4.0			

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1	3	4	5			
3.32	Supplying, fixing, testing and commissioning of storage type water heater (Geyser) etc. with Stainless steel body , copper container , automatic thermostatic control electric element, pressure release valve, M.S. nuts and bolts etc. conforming to IS: 2082					
a	35 Litre Capacity	Each	4.0			
b)	25 Litre Capacity	Each	1.0			
3.33	Providing & fixing water storage cooler of approved make and brand with SS body having minimum flow rate of 40 ltrs. Per hour and storage capacity 80 ltrs. Complete in respects.(VOLTAS/ BLUE-STAR/ USHA SHRIRAM)	Each	1.0			
3.34	Providing and fixing approved make & suitable model of R.O. plant (fully automatic operation) 400ltrs. Per hour flow rate having capacity to treat the raw water and average recovery not less than 35% . The operating voltage to 230 volt AC +/- 10% alongwith required capacity pump of approved make (3HP minimum) and solenoid valves, dry run protection of pump, automatic tank level control, inbuilt auto flush timer for periodic flushing of membranes, storage tank (3.0 mm (minimum) thick S.S. 304 sheet) 1500 lts of suitable size and its supporting structure, over voltage and over current protection with switch mode power supply system complete in all respects including installation and fittings with the following provisions: (IONIEXCHANGE/ KENT/AQUAPROCESS,Pantair,INDWA,Fontus)					
a)	10 micron polypropylene sediment pre filter					
b)	10 micron bacteriostatic activated carbon block on line micron filter with 5 micron rating					

	Name of Work:BOQ of Plumbing work of Animal House at IIIM,Jammu					
Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
c)	Required Nos. and size of reverse osmosis memberane with 0.0001 micron pore size energy saving poly amide type					
d)	UV lamp of minimum capacity 400LPM and minimum lamp wattage 15W					
e)	MS powder coated frame efficient of TDS removal more than 90%. Antiscalant dosing and acid dosing system for self flushing/cleaning.Pressure switches and gauges, pH correction dosing system, Digital TDS meter, Digital pH meter, electric panel and necessary instrumentation included Rotameter.MS structure and fibre glass sheet weather protection cover as per site condition.	Each	1.0			
3.35	Providing and fixing Stainless Steel pipes confirming to EN 10312 complete with Press Type fittings with SC-Contur in accordance with DVGW regulation W534) for Hot and Cold water supply capable to withstand temprature up to 110 degree centrigrade, such as sockets, bends, elbows, tees, reducers, unions.Flanges,clamps with hanger at a spacing of 2 m centre to centre min or as required etc. necessary adapters for GI/copper and CP fittings, jointing, sundries,cutting holes in walls/floors/slabs & making good complete.including exposed & Concealed work including cutting chases and making good the walls etc. This includes testing of joints complete as per direction of the Engineer incharge of approved make Krystal,Viega,Jindal for central RO & domestic water supply system.					
	15x1.0 mm outer dia pipe	Metre	70.0			
	18x1.0 mm outer dia pipe	Metre	65.0			
	22x1.2 mm outer dia pipe	Metre	15.0			
	28x1.2 mm outer dia pipe	Metre	10.0			

	Name of Work:BOQ of Plumbing work of Animal House at IIIM,Jammu					
Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
	35x1.5 mm outer dia pipe	Metre	10.0			
	42x1.5 mm outer dia pipe	Metre	20.0			
3.36	Providing and fixing stainless steel wet shower room of customised shape and size made up with frame work of GI angles and sections of suitable design, clad with 20SWG SS 304 grade on either side of frame including filling 50 mm thick glass wool of density 32 kg/cu.m(approx. size of wet shower room 1500x2000.Size of the room may vary according to drawing/actual layout at site.	sq.m.	70.0			
3.37	Providing and fixing entire SS hardware and hinges, towel rod of brass with chrome plating and door seal of food grade plastic,with overhead rainfall shower 100mm with all fitting with shower mixer of suitable design with thermostat control valve, complete system of a approved make and model for wet shower room.	Each	4.0			
3.38	Providing and fixing deluge Emergency shower ,push paddle operated controls,shower head and finish ceiling collar,face and body spray unit, valve,squeeze handle ,trap,waste,vent and service water connections					
	Emergency Shower	Each	1.0			
3.39	Providing and fixing Eye Washer ,push paddle operated controls,shower head and finish ceiling collar,face and body spray unit, valve,squeeze handle ,trap,waste,vent and service water connections					
	Eye Wash	Each	1.0			

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Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
3.40	Supplying, installing, testing and commissioning vertical online/horizontal centrifugal pumping set with mechanical seal, C.I. Housing, C.I. volute and SS impeller & SS shaft connected to a TEFC induction motor of suitable HP for 415 volts, 3 phase, 50 cycles A.C. supply with 150 mm dia pressure gauge with gunmetal isolation cock, vibration eliminating pads, base plate wiring upto panel and equipment for water level controller to start and stop the pump automatically at predecided levels of the water in the tank with provision of protection for dry run etc. complete in all respect (The shop drawing or the pumps along with its characteristics curves, model and technical data etc. are to be submitted for approval before purchase of pump).					
	Domestic water pumps (Treated water transfer&Raw water Transfer pump to terrace tank)					
	Treated water transfer pump to terrace tank					
	Capacity 30 lpm					
	Head 25M	Each	2.00			
	Raw water transfer pump					
	capacity 30 lpm & Head 25m	Each	2.00			
	SUB TOTAL(Water Supply)					

	Name of Work:BOQ of Plumbing work of Animal House at IIIM,Jammu					
Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
4.00	SEWARAGE & DRAINAGE					
4.01	Providing laying and jointing glazed stoneware pipes grade 'A' with stiff mixture of cement mortar in the pro-portion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete.					
a)	100 mm diameter	Metre	25.0			
4.02	Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) all-round S.W. pipes including bed concrete as per standard design:					
a)	100 mm diameter S.W. pipe/RCC NP2	Metre	25.0			
b)	150 mm diameter S.W. pipe/RCC NP2	Metre	100.0			
4.03	Providing and fixing square-mouth S.W. gully trap grade 'A' complete with C.I. grating, brick masonry chamber with water tight C.I. cover with frame of 300x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design:.					
a)	150x100mm size P type					
a.i)	F.P.S. Bricks class designation 75	Each	12.0			
4.04	Providing and laying non-pressure NP2 class (light duty) R.C.C. pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement:2 fine sand) including testing of joints etc. complete					
a)	150 mm dia R.C.c. pipe	Metre	100.0			

	Name of Work:BOQ of Plumbing work of Animal House at IIIM,Jammu					
Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
4.05	Constructing brick masonry manhole in cement mortar 1:4 (1 cement : 4 coarse sand), R.C.C. top slab with 1:2:4 mix (1cement : 2 coarse sand : 4graded stone aggregate 20 mm nominal size), foundation concrete 1:4:8 (1cement : 4 coarse sand : 8graded stone aggregate 40 mm nominal size), inside plastering 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, and making necessary channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement all complete as per standard design.					
a)	Inside size 90x80 cm and 45 cm deep including C.I. cover with frame (light duty) 455x610 mm internal dimensions total weight of cover and frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg):					
a i)	With F.P.S. bricks with class designation 75	Each	10.0			
4.06	Extra depth for manholes					
a)	Size 90 x 80 cm					
a i)	With F.P.S. bricks class designation 75	Metre	1.0			

	Name of Work:BOQ of Plumbing work of Animal House at IIIM,Jammu					
Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
4.07	Constructing brick masonry circular type manhole 0.91m internal dia at bottom and 0.56m dia at top in cement mortar 1:4 (1 cement :4 coarse sand), in side cement plaster 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 mix (1 cement: 3 coarse sand: 6 graded stone aggregate 40mm nominal size), and making necessary channel in cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement all complete as per standard design:					
a)	0.91 m deep with S.F.R.C. cover and frame (heavy duty, HD-20 grade designation) 560mm internal diameter conforming to I.S. 12592, total weight of cover and frame to be not less than 182kg., fixed in cement concrete 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size) including centering shuttering all complete. (Excavation, foot rests and 12mm thick cement plaster at the external surface shall be paid for separately) :					
a i)	With F.P.S. bricks class designation 75	Each	2.0			
4.08	Extra depth for circular type manhole 0.91m dia (at bottom) with beyond 0.91m to 1.67 m					
a)	With F.P.S. bricks class designation 75	Metre	0.5			

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Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
4.09	Providing and fixing orange colour safety foot rest of minimum 6 mm thick plastic encapsulated as per IS: 10910 on 12 mm dia steel bar conforming to IS: 1786 having minimum cross section as 23 mm x 25 mm and over all minimum length 263 mm and width as 165 mm with minimum 112 mm space between protruded legs having 2 mm tread on top surface by ribbing or chequering besides necessary and adequate anchoring projections on tail length on 138 mm as per standard drawing and suitable to with stand the bend test and chemical resistance test as per specification mark to be visible even after fixing, including fixing in manholes with 30x20x15 cm cement concrete block 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size) complete as per design.	Each	20.0			
4.10	Making connection of drain or sewer line with existing manhole including breking into and making good the walls, floors with cement concrete 1:2:4 mix (1 cement:2 coarse sand:4 graded stone aggregate 20 mm nominal size) cement plastered on both sides with cemnet mortar 1:3 (1 cement:3 coarse sand) finished with a floating coat of neat cement and making necessary channels for the drain etc. complete (including obtaining approval from DJB/Municipal corporation					
a)	For pipes 100 to 230 mm dia	Each	1.0			
4.11	Constructing brick masonry road gully chamber 50x45x60 cm with bricks of class designation 75 in cement mortar 1:4 (1 cement:4 coarse sand) including 500x450 mm pre-cast R.C.C. horizontal grating with frame complete as per standard design:					
a)	With F.P.S. bricks	Each	20.0			

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Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
4.12	Making soak pit 2.5 m diameter 3.0 metre deep with 45x45 cm dry brick honey comb shaft with bricks of class designation 75 and S.W. drain pipe 100 mm diameter, 1.8 long complete as per standard design.					
a)	With F.P.S. bricks	Each	2.0			
4.13	Constructing septic tank, of size 6.0mx2.0mx1.2m (3.0 m approx. of total height) (Height to be fixed as per site requirement i.e. below invert level of last manhole (1.2 m water depth) , in RCC M20, 200 mm thick (minimum) walls and 400 mm (minimum) base slab all as per detail design including all excavation, 15 cm thick bed concrete in 1:4:8 (one cement: 4 fine sand: 8 stone aggregate 40 mm) cement plaster 1:3 (one cement :3 coarse sand) with a floating coat of neat cement, top slab in RCC M20, including centring, shuttering and steel work, also providing and fixing two nos.D.I. manhole cover & frame of size 560mm dia.(medium duty, lockable type) and cost of 75mm dia C.I. vent pipe upto 3 m height with C.I. Ventilating Cowl and providing & fixing 150 mm dia SW tees for inlet and outlet, C.I Rungs@300 mm c/c all complete in every respect as per drawing and as directed. The agency has to provide the shop drawings (structure and PHE) as per IS requirements and obtain the approval from HSCC.	Each	1.0			

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Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
4.14	Providing, fixing, testing & commissioning of Labroom Drain with Sealing flange,with removable trap (Storage water height-Seal-50mm) with height adjustable and Rotatable top 100 X 100mm(Suitable for 94x94 Grate),with protection plug, with plastic frame and Stainless Steel Grate.Loading capacity class K=300kg, with rotatable supply DN40, with horizontal drain socket, adjustable due to ball joint with outlet 50 mm.Body made of environmentally friendly PP (poly propylene). Quality controlled in accordance withDIN EN 1253,	Each	8.0			
4.15	Providing, Fixing,of P- Trap For sinks (Make-Viega model no.-7985), with horizontal outlet, quality controlled in accordance with DIN EN 274,(1 1/2" X 40mm)Body Made of PP (Poly Propylene) White in Colour.	Each	8.0			
4.16	Supplying of stainless steel 304 grade, box channels 200 of 2mm thickness, Pickle passivated for superior anti-corrosive property,having Vshape on bottom of channel debth ranging from 50mm-125mm , with/without built in slope, Standard edge to seat grating, with spigot outlet of dia 110mm, provision of flange for connection to another channel along with gasket in between to ensure leak proof, with built in groove to accommodate SS silt basket to trap kitchen debris for application in commercial kitchen along with anti slip mesh grate of sizes 375/500/1000mm matching the channels along with all required accessories (i.e. End cap & Sieve Basket) complete in all respect of approved make ACO,VIEGA or equivalent approved .	Metre	2.0			

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Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
	Supply of SS 304 Kitchen/laundry Channel with inbuilt slope towards the outlet, pickle passivated for longer life, with anchors and leveling screws with Centre outlet of Dia 110mm with mesh Grating with FAT & Slit Basket					
	Trough 1000x300 Grating 999x298 Sieve Plate DN 110	Set	2.0			
4.17	Supplying of SS 304 grade pipe of DN110 length of ranging from 0.15m to 6m Confirming to EN1124-1 & EN 1124-2 having push fit system with EPDM rubber seal to ensure leak proof along with all fitting / accessories required for gravity water drainage or equivalent including suitable connection as per site requirement.	Metre	30.0			
	SUB TOTAL(SEWERAGE AND DRAINAGE)					

	Name of Work:BOQ of Plumbing work of Animal House at IIIM,Jammu					
Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
5.00	EARTH WORK					
5. 01	Earth work in excavation by mechanical means (Hydraulic excavator)/ manual means over areas (exceeding 30 cm in depth,1.5 m in width as well as 10 sqm on plan) including disposal of excavated earth, lead up to 50 m and lift up to 1.5 m , disposed earth to be levelled and neatly dressed.					
a)	All kinds of soil	cum	30.0			
5. 02	Excavating trenches of required width for pipes, cables, etc including excavation for sockets, and dressing of sides, ramming of bottoms, depth up to 1.5 m including getting out the excavated soil, and then returning the soil as required, in layers not exceeding 20 cm in depth including consolidating each deposited layer by ramming, watering, etc. and disposing of surplus excavated soil as directed, within a lead of 50 m:					
a)	All kinds of soil					
a.ii)	Pipes, cables etc. exceeding 80 mm dia but not exceeding 300 mm dia	metre	125.0			
5. 03	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20 cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift up to 1.5 m	cum	10.0			
	SUB TOTAL(EARTH WORK)					

	Name of Work:BOQ of Plumbing work of Animal House at IIIM,Jammu					
Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
6.00	RAIN WATER PIPING					
6.01	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15 cm diameter and weighing not less than 440 grams	Each	20.0			
6.02	Providing and fixing rain water ,soil, waste and vent pipes.					
a)	100 mm dia.					
a i)	Centrifugally cast (spun) iron socketed pipe as per IS:3989	Metre	170.0			
6.03	Providing and fixing M.S holder-bat clamps of approved design to Sand Cast iron/ cast iron (spun) pipe embedded in and including cement concrete blocks 10x10x10 cm of 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) including cost of cutting holes and making good the walls etc.					
a)	for 100 mm dia. pipe	Each	60.0			
6.04	Providing and fixing plain bend of required degree.					
a)	100 mm					
a ii)	Sand cast iron S&S as per IS:3989	Each	20.0			
6.05	Providing and fixing heel rest sanitary bend.					
a)	100 mm dia					
a.ii)	sand cast iron S&S as per IS-3989	Each	20.0			
6.06	Providing and fixing collar					
a)	100 mm					
a.ii)	Sand cast iron S&S as per IS-3989	Each	20.0			

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Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
6.07	Providing lead caulked joints to sand cast iron /centrifugally cast (spun) iron pipes and fittings of diameter:					
a)	100 mm	Each	120.0			
6.08	Painting sand cast iron / centrifugally cast (spun) iron soil, waste vent pipes and fittings with paint of any colour such as chocolate, grey, or buff etc. over a coat of primer (of approved quality) for new work:					
a)	100 mm diameter pipe	Metre	160.0			
	SUB TOTAL(Rain Water pipe & fitting)					

	Name of Work:BOQ of Plumbing work of Animal House at IIIM,Jammu					
Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
7.00	RAIN WATER HARVESTING(1 NOS.)					
7.01	Designing and Constructing of percolation pit cum perforated well 3000mm. dia upto 4000mm deep, 230 mm thick brick masonry work alround upto 1.5 m deep with 75 class brick in cement mortar 1:4, 200 mm foundation concrete in 1:4:8 mix below brick work only, 150 mm thick precast removable RCC top slab with required steel reinforcement in cement concrete 1:2:4 mix, filled with coarse aggregate, SFRC covers, river pebbles of requisite size stone as shown in the drawing including centering and shuttering, as shown complete as per detailed drawings complete.	Each	1.0			
7.02	Drilling as per IS : 2800-1964 (with percussion or combination rig) from ground level in all kind of soils including boulders (excluding rock) diameter of bore 450mm.					
a)	0-50m	Metre	40.0			
7.03	Extra for drilling in Ordinary Rock	Metre	5.0			
7.04	Extra for drilling in Hard Rock	Metre	5.0			
7.05	Providing and lowering of 200 mm dia uPVC blank/ slotted pipe with ribs, special fittings, jointing conforming to IS 12818 - 1992.	Metre	30.0			

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Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
7.06	Constructing bar screen / settling tank, of sizes 4500x2500 with suitable depth up to 2.0 m in 1: 4 Cement Mortar (one cement : 4 coarse sand) height as per site requirement, in brick masonry 350mm thick walls upto water level and 230mm thick walls above water level & upto ground level, including all excavation, 20 cm thick bed concrete in 1:4:8 (one cement 4 fine sand 8 stone aggregate 40 mm), cement plaster 1:3 (one cement :3 coarse sand) with a floating coat of neat cement as inside finish , top slab in RCC 1:2:4, including centring, shuttering and steel work, also providing and fixing D.I. manhole cover & frame of size 605mm x 450mm of weight not less than 38 kg (frame + cover) and cost of 100mm dia C.I. vent pipe with C.I. Ventilating Cowl and suitable wire mesh provision for inlet, 115mm baffle walls extending 2/3 the width spaced@500mm c/c including finishing with 1:3 cement plaster 15mm thick with floating coat of neat cement slurry , all complete in every respect as per drawing and as directed to suit site condition.	Each	1.0			
SUBTOTAL (RAIN WATER HARVESTING)						

	Name of Work:BOQ of Plumbing work of Animal House at IIIM,Jammu					
Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
8.00	SOLAR WATER HEATING SYSTEM & RECIRCULATION OF HOT WATER SYSTEM (1 Nos)					
8.01	Supply, installation, testing and commissioning of solar water heating system, Thermosyphon type, all complete based on Flat plat collector system (Cu-Cu Type only) comprising of but not limited to the following:					
a)	Requisite number of Flat plate collectors of 2 sq. mtr. collector area. Collector absorber plate to be made of copper tubes & copper fins only					
b)	Hot water storage tank made of stainless steel 304- food grade quality with 100 mm Glass wool insulation and cladding with 24 SWG Aluminum sheet. One temperature measuring device and suitable inlet, outlet and drain connections on the storage tank to be provided.					
c)	Heat Exchanger - Cage type Internal Heat Exchanger made of SS pipes shall be provided inside the Solar Tank. Heat exchangers shall have min. heat transfer area of 0.24 sq. mtrs. for every 100 LPD calacity. Suitable make up tank for the Heat Exchanger circuit shall also be provided					
d)	Interconnecting system piping shall consist of B Class insulated GI pipes covered with 50mm thick glasswool & clad with 26 SWG Aluminium Sheet. All Gate/Ball valves shall be of ISI make.					
e)	Electrical control panel, cabling from panel to pumps shall be provided					

	Name of Work:BOQ of Plumbing work of Animal House at IIIM,Jammu					
Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
f)	The solar collector shall be arranged on roof of building in such a way that shadow can be avoided and requisite number of MS support for collector/tanks of minimum 35x35x5 MS angle adequate for 150 Km/Hr wind speed.					
g)	Solar water heating system based on Flat plat collector system technology with output capacity of as mentioned below with hot water at 60 degree centigrade having required Nos. solar collectors . As per complete item as per technical specification of make BHEL/TATA/EMMVEE. The system has to be installed by Manufacturers authorised distributors/approved specialised firms of Solar water heating of approved makeThe shop drawing of the systems shall be provided by the agency as per site condition obtain the proper efficiency The system shall be procured after obtaining the approval of shop drawings from HSCC / Engineer-in-charge. The solar hot water will supply the hot water to all the geyser,in view of this provision the backup electrical heating system at terrace hot water tank will not be provided for non solar days.					
i)	Solar System of Capacity 1500 Litre/day (With minimum 12 nos of Collect) of 2.0 Sqm area	each	1.0			

	Name of Work:BOQ of Plumbing work of Animal House at IIIM,Jammu					
Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
8.02	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.					
	Internal work- Exposed on wall					
a)	15 mm nominal outer dia pipes (SDR-11)	metre	5.0			
b)	20 mm nominal outer dia pipes (SDR-11)	metre	5.0			
c)	25 mm nominal outer dia pipes (SDR-11)	metre	10.0			
d)	32 mm nominal outer dia pipes (SDR-11)	metre	20.0			
8.03	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings i/c fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and the cost of cutting chases and making good the same including testing of joints complete as per direction of Engineer in Charge.					
	Concealed work including cutting chases and making good the walls etc.					
a)	15 mm nominal outer dia pipes (SDR-11)	metre	50.0			
b)	20 mm nominal outer dia pipes (SDR-11)	metre	15.0			
c)	25 mm nominal outer dia pipes (SDR-11)	metre	10.0			
8.04	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (screwed end):					
a)	25 mm nominal bore	each	4.0			
b)	32 mm nominal bore	each	4.0			

	Name of Work:BOQ of Plumbing work of Animal House at IIIM,Jammu					
Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
8.05	Providing & fixing 9 mm thick thermal insulation tubing of elastomeric flexible material having hermetic blistered closed cell structure of expanded synthetic rubber over pipes/ fitting as per manufacturer's specifications etc.complete.					
a)	15 mm dia to 25 mm dia	each	95.0			
b)	32 mm dia to 50 mm dia	each	20.0			
8.06	Providing and fixing gun metal ball valve of approved quality					
a)	15 mm nominal bore	each	4.0			
b)	20 mm nominal bore	each	4.0			
	SUBTOTAL(SOLAR WATER HEATING SYSTEM & RECIRCULATING SYSTEM)					

	Name of Work:BOQ of Plumbing work of Animal House at IIIM,Jammu					
Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
9.00	WATER TREATMENT PLANT (for Domestic use))					
	Supplying, Installing, testing & commissioning of indoor package type water treatment plant of capacity 1.5 cum per hr. with 12 hours operation time, comprising of the following including all necessary piping, control valves, other accessories etc. complete as per drawing and as per drawing and as directed.					
	FILTER					
	Supply, installation & testing and commissioning of MULTI GRADE Filter vertical floor mounted fabricated with Fibre reinforced Plastic (FRP) with frontal piping & valves, back wash system & filter media etc. with single lever operated multiport valve system with standard fittings like manhole cover, pressure gauge at inlet & outlet, sampling cock, rinse drain valve, air vent valve with piping, bolts, nuts & rubber gaskets.					
	Flow rate = 1.5 cub. m/hour					
	Working pressure = 3.5 kg/Sq. cm.					
	UV WATER STERILISERS					
	High performance on line UV water sterilisers of capacity 1500lph designed on at least 50 J/Sq. M. UV dosage, comprising of glass UV chamber in SS 316 housing, UV lamp and electrical circuit, wall mounted model / line mounted model, capacity 25lpm, minimum lamp rating :120 watts - 1Nos.					

	Name of Work:BOQ of Plumbing work of Animal House at IIIM,Jammu					
Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
	Supplying, installing, testing and commissioning vertical online/horizontal centrifugal pumping set with mechanical seal, C.I. Housing, C.I. volute and SS impeller & SS shaft connected to a TEFC induction motor of suitable HP for 415 volts, 3 phase, 50 cycles A.C. supply with 150 mm dia pressure gauge with gunmetal isolation cock, vibration eliminating pads, base plate wiring upto panel and equipment for water level controller to start and stop the pump automatically at predecided levels of the water in the tank with provision of protection for dry run etc. complete in all respect (The shop drawing or the pumps along with its characteristics curves, model and technical data etc. are to be submitted for approval before purchase of pump).					
	Filter feed pump(1 no.)					
	Capacity 30 lpm					
	Head 30M	Set	1.00			
9.01	WATER TREATMENT PLANT (for A/C use))					
	Suplying, Installing, testing & commissioning of indoor package type soft water treatment plant of capacity 2 cum per hr. with 10 hours operation time, comprising of the following including all necessary piping, control valves, other accessories etc. complete as per drawing and as per drawing and as directed.					
a)	FILTER					

	Name of Work:BOQ of Plumbing work of Animal House at IIIM,Jammu					
Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
	Supply, installation & testing and commissioning of MULTI GRADE Filter vertical floor mounted fabricated with Fibre reinforced Plastic (FRP) with frontal piping & valves, back wash system & filter media etc. with single lever operated multiport valve system with standard fittings like manhole cover, pressure gauge at inlet & outlet, sampling cock, rinse drain valve, air vent valve with piping, bolts, nuts & rubber gaskets.					
	Flow rate = 2.0 cub. m/hour					
	Working pressure = 3.5 kg/Sq. cm.					
b)	Softener					
	Supply, installation & testing and commissioning of upflow cation Ion exchange resin water Softener fabricated with Fibre reinforced Plastic (FRP) with frontal piping & valves, back wash system & strongly acidic cation resin with regeneration assembly comprising of power valve ejector,brine suction valve,tankl etc. with single lever operated multiport valve system with standard fittings like pressure gauge at inlet & outlet, sampling cock, rinse drain valve, air vent valve with piping, bolts, nuts & rubber gaskets, pump and Panel complete in all respect.					
	Flow rate = 2.0 cub. m/hour- 0.3 cub.m/hour					
	Working pressure = 3.5 kg/Sq. cm.					
	Raw Hardness-700-1500 mg/l					
	Soft water quality-Commercial zero hardness(less than 5ppm)					
	Output per Regeneration-10 cum.(min.)	Each	1.00			

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Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
9.02	Providing and fixing of OxiLyte (Mixed Oxidant) Generation System , based on ECA Technology, producing non toxic mixed Oxidant Slution at 1000 ppm of Oxidant Concentration or any other approved disinfection method excepted by HSCC. The solution should be at a pH 3+-0.5 suitable for 24x7 operations should produce 25L per hour. The system should be supplied complete with appropriate dosing pumps , valves, piping, fittings, chemical dosing tank etc. shoep drawing complete in all respect.	set	1.00			
	Subtotal (Water treatment Plant,Pump and Equipment)					

	Name of Work:BOQ of Plumbing work of Animal House at IIIM,Jammu					
Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
10.00	EFFLUENT TREATMENT PLANT(ETP)					
	Providing and fixing packaged type Effluent treatment plant including design/shop drawing and obtain the approval from HSCC,erection,commissioning,construction of ETP including civil,mechanical,electrical,piping work complete in all respect on turnkey basis.The system should be fully automatic with level control,compact,odor free and shall consume low power. ETP will be place in the basement of building of suitable size for 10 KLD required to treat the effluent of lab,laundry facilities by using suitable technology complete in all respect including screen/equilization/flocculation/mixer/settler/neutralisation chamber,holding tank,including multigrade filter stand by motor pump,blower etc. pumps and piping,filter,sludge holding tank,filter press,testing kit,electrical panel,air blower,equilisation tank/holding tank.Treated water transfer pump and sump of suitable capacity.Agency has to monitor the lab waste effluent for various parameter and quantity obtaining desired no. of test reports of raw/treated lab effluent.					

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Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
	All the unit of ETP shall be MS sheet min. 4 mm thickness with suitable structure support complete in all respect including min.3 layers approved epoxy or other approved corrosion resistant coating/protection of all parts (internal and external surface).The ETP units shall be designed in such a way that the lab effluent doesnot effect the function of STP when treated lab effluent mixed in the domestic sewer line,treated effluent shall meet the State Pollution Control Board norms and also obtain NOC from SPCC. Agency has to maintain and operate the ETP during defect liability period including cost of manpower,chemical etc except electricity cost.Work shall be carried out by specialised agency approved by HSCC.					
	The collection/equilization tank and treated effluent tank/sludge drying bed foundation will be made in RCC civil work and this will be paid in addition as per item rate basis based on civil item but the planning and design, piping/plumbing work will be covered in this item	Each	1.0			
	Subtotal (Effluent Treatment Plant)					

	Name of Work:BOQ of Plumbing work of Animal House at IIIM,Jammu					
Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
11.00	WATER SUPPLY PUMP PANEL					
	Supply, installation, testing and commissioning of following M.V. cubicle type totally enclosed, powder coated, wall mounted/ free standing type, dust, damp and vermin proof, indoor type Distribution Board/Panel complete with busbars, M.V. danger notice plate, interconnections with suitable capacity aluminium leads/solid aluminium strips/rods, connection of incoming and outgoing cables with thimbles, and having following incoming and outgoing switchgears complete as required.					
	INCOMER :					
	125 Amp 415 volts, 35 KA (Isc), FP MCCB with e/f protectionthermal magnetic release having variable current settings.					
	R,Y&B phase indicating lamp (LED type) with 2A control SP MCB					
	"ON" and "OFF" LED indicating lamp and 2A control SP MCBs					
	Push button for CLOSE and TRIP					
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	1 no. 0 to 500 V Digital voltmeter with selector switch					
	1 to 0 to 125 Amps Digital ammeter with selector switch with one set of 125/5A C.T. s					
	BUSBARS :					
	160 Amp TPN busbars of aluminium					
	OUTGOINGS :					
i	6 Sets of following (For Domestic Pump)					

	Name of Work:BOQ of Plumbing work of Animal House at IIIM,Jammu					
Sl. No.	Description of Item	Unit	Total Qty.	Rate in figures(in Rs.)	Rate in words(in Rupees)	Amount in figures(in Rs.)
1	3	4	5			
	1 No. 16 Amp. 415/500 volts,25 KA, three pole, Moulded Case Circuit Breaker with variable current setting .					
	Extended rotary operating mechanism with door interlock with defeat feature and padlock facility. MCCB should have spreader links & phase barriers.					
	1 No. 3 Phase, DOL starter type - II of 1 HP with thermal overload relay, contactor, Push Buttons, Single Phase Preventer and Switches etc complete as required.					
	Neon indicating Lamps for "ON" , "OFF" & "TRIP" indication with 2A SP control MCBs.					
	WATER SUPPLY PUMP Panel as mentioned above	Set	1.00			
	Subtotal (Watersupply Pump Panel)					

ABSTRACT

Name of Work:BOQ of Plumbing work of Animal House,IIM,Jammu

S.No.	DESCRIPTION	Amount in words(in Rupees)
A	PLUMBING ,	
1. 00	SANITARY FIXTURES	
2. 00	SOIL, WASTE AND VENT PIPES	
3. 00	WATER SUPPLY	
4. 00	SEWERAGE AND DRAINAGE	
5.00	EARTH WORK	
6.00	RAIN WATER PIPING	
7.00	RAIN WATER HARVESTING	
8.00	SOLAR WATER HEATING SYSTEM & RECIRCULATING SYSTEM	
9.00	WATER TREATMENT PLANT ,PUMP & EQUIPMENT	
10.00	EFFLUENT TREATMENT PLANT	
11.00	WATER SUPPLY ELECTRICAL PANEL	
	TOTAL	