

Sr. No.	Name of the Equipment	Quantity (nos.)	Capacity	Purpose	Location	Prof. Incharge for the equipment
1	Rheometer	1	250 ml	Rheology of Paste and Mortar		
2	Rheometer	1	19 litres	Rheology of Mortar and Concrete		
3	Programmable Oven	1	300 Deg C	Thermal Treatment		
4	Muffle Furnace	1	1400 Deg C	Heating/ Sintering		
5	Carbonation Chamber	1		Provides desirable CO <sub>2</sub> %, temperature and % RH		
6	Oven (small)	1	250 Deg C	Thermal Treatment		
7	Needle Vibrator	1		Concrete Compaction		
8	Rock Crushing Machine	1		Crushing of rocks		
9	Drilling Machine	1		Drilling Purpose		
10	Grinding Machine	1		Grinding Purpose		
11	Abrasion Testing Machine with compressor	1		Measures abrasion resistance of concrete		
12	Water Permeability Apparatus	2		Measures permeability of concrete and mortar		
13	Tile testing Machine	1		Transverse strength of tile		
14	Ball Mil Machine	1	Max.980 rpm	Grinding of material like bagass ash, rice husk ash etc.		
15	Buoyancy Balance	1	15 kg	Flow or Spread of mortar and concrete		
16	Flow Table	2	20 cm and 76 cm spread			
17	Automatic sieve shaker	1		Sieving of aggregate		
18	Weighing Balance	4	(0.5 g, 12 kg), (0.5g, 10 kg), (0.1g, 6 kg), (5g, 50 kg), (0.5 g, 300 g)	Measure Mass		
19	U - Box	1		Workability of SCC		
20	Vicat Apparatus	4		Setting time and Consistency of Paste		
21	Humidifier	1	80 % max RH	To increase % RH		
22	Dehumidifier	1	20 % max RH	To decrease % RH		
23	Compression testing Machine	2	500 kN and 2000 kN	Compressive strength		
24	Flexural testing Machine	1	100 kN	Flexural strength		
25	Flexural Jig	1		Flexural strength of mortar		
26	3D Mixer	1	3 litre , 10-65 rpm	Blending of powders		
27	Planetary Mixer (Hobart)	1	4 L	Mixing of paste and mortar		
28	Mini Slump	2	40 ml	Optimisation of SP		
29	Marsh cone (Paste and Mortar)	2	1000 ml	Optimisation of SP		

30	Impact Machine	1		Impact value of aggregate
31	Hot water curing Tank	1	100 Degc	Steam Curing
32	Twin Shaft Mixer	1	80 liter	Mixing of concrete ingredients
33	Pan Mixer	1	40 liter	Mixing of concrete ingredients
34	Mortar Mixer	1	4 L	Mixing of cement mortar
35	Mortar Vibrator	1	Suitable for 5 cubic cm and 7 cubic cm	Compaction of cement mortar
36	Vibrating Table	2		Compaction of concrete
37	Humidity Chamber	1		Controlled temperature and RH
38	Bucket Fall Apparatus	1		Dry density of aggregate
39	Slump Cone	2	3 liter	Measure slump of concrete
40	Pipe Flow Apparatus	1		Permeability of pervious concrete
41	RCMT Apparatus	1	3 sample with 100 mm dia.	Chloride migration
42	Magnetic Stirrer	1	1000 rpm	Agitate mixing
43	Core Cutter	1		Cut core from existing structure
44	Length Compactor	1	Max.14 mm	Shrinkage of cement mortar and concrete
45	Rebound Hammer			Compressive strength of concrete
46	Half -cell Potential Equipment	1		Corrosion potential of concrete (probability)
47	Ultrasonic Pulse Velocity (PUNDIT)	1		Detect presence of voids or cracks in concrete
48	Water Purifier	1		Deionise water
49	Profoscope	1		Measure reinforcement cover and bar diameter
50	Penetration Apparatus	1		Setting time of concrete and mortar
51	LDT	1	50 mm	Measure Displacement
52	Pycnometer	2		Specific gravity of aggregate
53	Crack width microscope	1	upto 0.8 mm	Determine size of crack
54	Schmidt Hammer	1		NDT
55	Blaine's Air Permeability apparatus	1		Measure Specific area of Powder
56	Magnetic Stirrer with hot plate ceramic top plate	1	2 L	Stirring Purpose
57	AIMIL Digital mortar mixer	1	4.75 L	Mixing cement mortar
58	Tiles Autoclave machine	1	10 kg/cm <sup>3</sup> - working range	accelerated steam curing of specimen
59	SWL type Load cell	1	2 t	To understand the Load
60	Touch screen Analytical weighing Balance	1	(10mg , 300g)	For Weighing
61	Servo Hydraulic Compression testing system under control of load/stress, displacement and strain rate	1	3000 kN	For Compression test

SEMT Lab

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62	Servo Hydraulic Compression testing system under control of load/stress, displacement and strain rate	1	300 kN	For Compression test
63	Servo Hydraulic Compression/Flexural testing system under control of load/stress, displacement and strain rate	1	15 kN	For Compression/flexural test of cement mortar prism sample
64	Servo Hydraulic Flexural testing system under control of load/stress, displacement and strain rate	1	200 kN	For Flexural test
65	Auto vicamatic	1		Setting time and Consistency of Paste
66	Stereo zoom Microscope	1	0.67X to 4.5X Magnification	To microscopic study of samples
67	Pocket ultrasonic concrete tester	1	0 - 3000 microsec	For NDT testing of concrete
68	Jolting apparatus	1	upto 999 Jolts	For compaction of cement mortar
69	Rock test Rebound hammer	1		Compressive strength
70	Crack width microscope	2	upto 0.8 mm	To measure the crack width
71	Concrete air meter	2	1 L	for understand the air content in fresh concrete
72	Hobart machine planetary mixer	1	4 L	To mixing the cement mortar
73	Simpure ultrapure water sytem	1		Deionised water
74	OHMCORR test system		upto 20 K ohm cm	To know electrical resistivity of concrete
75	Electric Furnace PID control	1	1600 degc	Heating
76	Compact Bench scale	1	3 kg	for Weighing
77	Hand held multisystem 4070 data logger	1		data logging
78	Cone Penetrometer	1	1 L	Consistency of masonry mortar
79	BOSCH Grinding machine	1		Grinding Purpose
80	Lab based Concrete 3D Printer	1	1 Cubic meter Volume	3D printing of concrete structure