

## List of Machinery and Equipments

### CONCRETE LAB

Sr. No.	Name of Article	Quantity
1	Vicat apparatus	4
2	Le – chateleir apparatus	3
3	Mould (50mm)	9
4	Gauging trowel	9
5	Slump test apparatus	8
6	Compaction factor apparatus	2
7	Mould (150mm)	12
8	Tamping rod.	12
9	EDI compression testing machine 2000 kn. & CTM	1
10	Flexure test attachment	1
11	Mortar mixture capacity 4.75 ltr.	1
12	High speed stirrer with dispersior cap. & baffle	1
13	Jaw crusher three phase	1
14	Vicat apparatus with dashpot	4
15	Le – chatelier mould	4
16	Le – chatelier flask	4
17	Extensibility mould	4
18	Vibrating table	1
19	Beam mould (100*100*500) (150*150*700)	10
20	Cylindrical mould (150*300)	4
21	Cement autoclave	1
22	Heat of hydration	1
23	Curing tank for 6/12 mould of 1.50/ 70.6mm	1
24	Mould steel for 70.6mm cutes	7
25	Air permeability apparatus	1
26	Aluminium box (373*273*160)	1
27	Modular heavy duty table (furniture)	2
35	Compression testing machine (1000 kn) electrically operated single gauge	1
36	Rebound hammer	1
37	Ultrasonic testing instruments	1
38	Vibration machine with butten digital timer	1
41	Sieve 200mm dia spun brass frame for grading of Fine and Course agreegate	1 set (9 no)
42	Concrete mixer drum type 1 cu feet	1 no.
43	Longitudinal compresso-meter for modulus of Elasticity	1 no.
44	Drying shrinkage and moisture movement	1 no.
45	Bulk density voids and bulking	1 no.
46	Density basket	2 no.
47	Crushing value apparatus	1 no.
48	Permeability apparatus	1 no.

## **SURVEY LAB**

<b>Sr. No.</b>	<b>Name of Article</b>	<b>Quantity</b>
1	Arrows	7
2	Auto level with stand	4
3	Cross staff with stand	7+4
4	Digital planimeter	1
5	Dumpy level with stand	4
6	Levelling staff – 1	3
7	Levelling staff - 2	4
8	Metallic tape – 1	5
9	Metallic tape – 2	5
10	Plane table	6+4
11	Plumb bob	7+3
12	Ranging rod – 1	12
13	Ranging rod – 1	12
14	Surveyor compass with tripod	7+3
15	Total station	5
16	Transit vernier theodolite with stand	6
17	Auto level with stand	2

## **STRUCTURE ANALYSIS LAB**

<b>Sr. No.</b>	<b>Name of Article</b>	<b>Quantity</b>
1	Euler's buckling load apparatus	1
2	Unsymmetrical bending apparatus	1
3	Two hinged apparatus	1
4	Apparatus to verify moment area method for deflection	1
5	Curved member apparatus	1
6	Maxwell reciprocal theorem	1
7	Three hinge apparatus	1
8	Redundant joint apparatus	1
9	Staad pro' software (CDS)	10 users
10	ATENA (Nonlinear Software)	1
11	Auto plotter (printer)	1

## **ENVIRONMENTAL ENGINEERING LAB**

<b>(S No.</b>	<b>Name of the items</b>	<b>Quantity (in nos.)</b>
1	Lab Benchtop pH meter (complete set)	1 no
2	Lab Benchtop conductivity meter (complete set)	1 no
3	DO meter (complete set)	1 no
4	Digital Titrator (with EDTA cartridge)	1 no

5	Portable Turbidity meter(complete set)	1 no
6	Portable TSS Analyser(complete set)	1 no
7	Acidity Reagent set	2 no
8	Alkalinity reagent set	2 no
9	COD Analysis system(complete set)	1 no
10	Residual Chlorine Apparatus(complete set)	1 no
11	Apparatus to determine MPN of coliform(complete set)	1 no
12	Colorimeter apparatus (complete set)	2 no
13	Apparatus to find sludge volume index (complete set)	1 no
14	BOD meter, Incubator, Reagents (complete set)	1 no
15	Jar test Apparatus (complete set)	1 no
16	Acetone 500 ml	2 no
17	Hydrochloric Acid 500 ml	2 no
18	Methyl orange soln 125 ml	2 no
19	Sulphuric acid 500 ml	1 no
20	Phenolphthalein 125 ml	2 no
21	Erichrome Black T 25 gm	2 no
22	EDTA powder 100 gm	1 no
23	Potassium Dichromate 500 gm	1 no
24	Buffer powder pH 4.0	2 no
25	Buffer powder pH 7.0	2 no
26	Buffer powder pH 9.2	2 no
27	Carbon Tetra chloride 500 ml	1 no
28	Glass Beakers with Spout, double graduated	
A	100 ml capacity	3
B	250 ml capacity	3
C	500 ml capacity	3
D	1000 ml capacity	2
29	BOD Bottle with interchangeable stopper	
A	300 ml capacity	3
30	Erlenmeyer Conical Flasks	
A	Graduated, Narrow mouth	
i	50 ml capacity	2
ii	100 ml capacity	2
iii	150 ml capacity	2
iv	250 ml capacity	2
v	500 ml capacity	2
B	long Neck, without Rim	
i	250 ml capacity	2
31	Burettes, Boroflo, fitted with Boroflo GP, screw thread stopcocks with PTFE keys, Class A	
A	50 ml capacity (0.1 ml graduation interval, $\pm 0.05$ ml tolerance)	3

B	100 ml capacity (0.2 ml graduation interval, $\pm$ 0.1 ml tolerance)	3
32	Pipettes, Measuring (Mohr type) class A of IS 4162: 1985	
A	10 ml capacity (0.1 ml graduation interval, $\pm$ 0.05 ml tolerance)	3
B	25 ml capacity (0.2 ml graduation interval, $\pm$ 0.1 ml tolerance)	3
33	Condensers, Liebig, Driptip, Interchangeable Inner joint & outer Joint	
A	300 mm jacket length	3
34	Measuring cylinders with hexagonal base & main point Ring graduation, blue graduation, class A	
A	100 ml capacity (1.0 ml graduation interval, $\pm$ 0.5 ml tolerance)	1
B	250 ml capacity (2.0 ml graduation interval, $\pm$ 1 ml tolerance)	2
C	500 ml capacity (5.0 ml graduation interval, $\pm$ 2.5 ml tolerance)	1
D	1000 ml capacity (10.0 ml graduation interval, $\pm$ 5.0 ml tolerance)	2
35	Glass Rod stirrer	
A	Outer diameter 7 mm X 150 mm long	2
B	Outer diameter 7 mm X 255 mm long	1
C	Outer diameter 7 mm X 305 mm long	1
36	Test Tubes with Rim	
A	12 x 75 (OD x length)	3
B	15 x 150	3
C	18 x 150	3
37	LDPE Wash bottle	
a	500 ml capacity	3
38	LDPE Narrow mouth wash bottle	
A	125ml capacity	3
39	Autoclavable PP material Measuring Beaker	
A	500 ml capacity	2
B	1000 ml capacity	2
40	Pipette Stand vertical 28 places	1
41	Burette Clamp made of PP material	6
42	Test tube stand made of RPP material, 31 places	
A	for tube dia 13 mm	1
43	Specimen container made of PP material	
A	250 ml capacity	2
B	500 ml capacity	2
C	1000 ml capacity	2
44	Flasks, Boiling, Florence, Flat Bottom,(OD x Ht. x neck	

	OD)	
A	100 ml (64 x 105 x 26)	1
B	250 ml (85 x 140 x 34)	1
C	500 ml (105 x 170 x 33)	1
45	Imhoff Cone, material SAN	
A	1000 ml	1
46	Funnel plain, 60° angle, long stem	
A	25mm dia	2
B	50mm dia	2
47	Whatman filter paper grade 1	
A	25 mm dia	20
B	55mm dia	20
48	Evapouring dish Flat Bottom, With Pour Out	
A	80 x 45 (O.D X Height mm)	3
B	150 x 80 (O.D X Height mm)	2
49	Desiccator With Cover And Porcelain Plate, Plastic Knob, I. S. 6128 : 2007	
A	100 (Approx ID Ground Flange mm)	1
B	250 (Approx ID Ground Flange mm)	1
50	Crucible, Gooch Type, Low Form, With Sintered Disc	
A	15 x 20 x 44 (capacity in ml, dia of disc in mm, ht in mm)	2
B	30 x 30 x 50 (capacity in ml, dia of disc in mm, ht in mm)	2
51	Tubes, Culture, Media, Round Bottom, With Screw Cap And Liner,	
A	10 x 16 x 125 (Capacity in ml, Approx OD x length in mm)	5
B	5 x 16 x 50 (Capacity in ml, Approx OD x length in mm)	5
52	Aluminium sulphate- 500 gm	1 bottle of 500 gm

### **GEOTECHNICAL ENGINEERING LAB**

<b>S No.</b>	<b>Name of the items</b>	<b>Quantity (in nos.)</b>
1	Liquid limit apparatus	5 no
2	Plastic limit apparatus	6no
3	Balance (digital)	4 no
4	Oven	3 no
5	Hydrometer	5 nos
6	Pycnometer	8 nos
7	Motorised sieve shaker	2 no
8	Proving rings set	2 no
9	Metal tray	9 no
10	Poly carbonate beakers 25ml	3 no
11	Polycarbonate beakers 50ml	9 no
12	Polycarbonate beakers 100ml	6 no
13	Polycarbonate beakers 250ml	6 no

14	Polycarbonate beakers 500ml	6 no
15	Polycarbonate beakers 1000ml	6 no
16	Sieve(ISS Brass)20 cm dia. to10mm 38 micron, pan&cover	3 no
17	Triaxial outfit motorized (complete set)	1 no
18	Direct shear apparatus (complete set)	1 no
19	Cone penetrometer (set)	1 no
20	Lab. CBR apparatus (set)	1 no
21	Hydraulic sample ejector (complete set)	1 no
22	Speedy moisture meter	1 no
23	Compaction test apparatus	1 no
24	Proctor compaction apparatus	1 no
25	Sand pouring cylinder small	2 no
26	Specific gravity bottle	3 no
27	Standard penetration test (SPT) apparatus	1 no
28	Aluminium boxes	4 no
29	Load frame motorised	1 no
30	Measuring cylinders (25-1000ml capacity)	5 no
31	Universal automatic compactor	1 no
32	Electronic weighting balance (50kg)	1 no
33	Density bucket	8 nos.
34	IS Sieve set 20 cm dia, brass made, 10 mm -38 micron with pan & cover	1 set
35	IS Sieve set 45 cm dia, GI made, 125 mm - 2.36mm & pan	1 set
36	Compaction rammer(light)	1 no
37	Sand pouring cylinder (large)	1 no
38	Sand pouring cylinder (small)	1 no
39	Relative density apparatus	1 no.
40	Core drilling machine	1 set
41	Infrared moisture meter	1 no.

### **HIGHWAY ENGINEERING LAB**

<b>S No.</b>	<b>Name of the items</b>	<b>Quantity (in nos.)</b>
1	Aggregate Impact Testing Machine	1 no
2	Los Angeles Abrasion Testing Machine	1 no
3	Dorry Abrasion	1 no
4	Deval Attrition	1 no
5	Crushing value apparatus	1 no
6	Universal Penetrometer	1 no
7	Ductility	1 no
8	Saybolt Viscometer (Electrically heated)	1 no
9	Ring & Ball apparatus	1 no
10	Cleveland Flash & Fire Point apparatus	1 no
11	Heater-1 no,Wire-6 mt, Connector-1 no,3 pin top-1no	1 set
12	Bucket	3 nos.
13	Frying Pan (Shallow depth)	3 nos

14	Frying Pan (Deep depth)	3 nos
15	Thermometer	2 nos.
16	Wooden benches 3 seater	2 nos.
17	Density bucket	2 nos
18	Thickness gauge	2 nos
19	Length gauge	2 nos
20	Electronic weighing balance 300 kg	1 no
21	Marshal stability apparatus	1 no
22	Sieve set (63 mm-6.3mm)	2 set
23	Drying oven	1 no.
24	Water bath	1 no
25	Metal tray(450x300x40)	5 nos.