

**DEPARTMENT OF CIVIL ENGINEERING  
SCHOOL OF ENGINEERING  
GAUTAM BUDDHA UNIVERSITY**

**LIST OF LABORATORIES IN CED**

<b>S.No.</b>	<b>LAB NAME</b>	<b>LAB NO</b>	<b>Non Teching Staff</b>	<b>Lab in charge</b>
1	Soil Mechanics lab	AP-104	Mr. Anuj Yadav	Dr. Shobha Ram
2	Surveying lab	AP-103	Mr. Anuj Yadav	Dr. Shobha Ram
3	Concrete lab	WE-107	Mr. Ram Pravesch	Dr. Shilpa Pal
4	Material Testing lab	WE-102	Mr. Ram Pravesch	Dr. Shilpa Pal
5	CAD lab	WE-207	Mr. Ram Pravesch	Dr. Shilpa Pal
6	Structural Analysis lab	WE-102	Mr. Ram Pravesch	Dr. Shilpa Pal
7	Engineering Graphics lab	AP-101	Mr. Sunil Kumar	Dr. Shobha Ram
8	Building Design & Drawing lab	AP-101	Mr. Ram Singh	Dr. Shobha Ram
9	Design Lab	AP-101	Mr. Ram Singh	Dr. Shobha Ram
10	Remote Lensing & GIS Lab	AP-101	Mr. Sunil Kumar	Dr. Shobha Ram
11	Environmental Engineering lab	AP-105	Mr. Dushyant Pal Singh (Lab Superintendent)/ Mr. Ram Singh (Lab Assistant )	Dr. Shobha Ram
12	Advance Environmental Engineering lab	AP-106	Mr. Dushyant Pal Singh (Lab Superintendent)/ Mr. Ram Singh (Lab Assistant )	Dr. Shobha Ram
13	Transportation Lab	WE-203	Mr. Dushyant Pal Singh (Lab Superintendent)/ Mr. Anuj Yadav (Lab Assistant)	Dr. Shilpa Pal
14	Hydraulics Lab/Fluid Mechanics Lab	Maintained by Mechanical Department		

## SOIL MECHANICS LAB

**Faculty Lab- Incharge: Dr. Shobha Ram**

**Lab Assistant: Mr. Anuj Yadav**

S.NO.	NAME OF EQUIPMENT	QUANTITY
1	Liquid Limit apparatus motorized with grooving tool	4
2	Soil sampling auger 150dia complete	1
3	Soil Hydrometer complete	5
4	Direct shear test electronic complete	2
5	Vane shear tester motorized complete	1
6	Constant head permeability apparatus	1
7	Standard Procter compaction apparatus	2
8	Modified proctor compaction	1
9	Sand replacement method sand pouring cylinder measuring jar cylinder	2
10	Core cutter	1
11	Pycnometer	6
12	Plastic limit apparatus	3
13	Shrinkage limit apparatus	3
14	Moisture content can	100
15	Consolidometer test	1
16	Standard penetration and dynamic cone penetration	1
17	Universal oven	1
18	Sample extractor	1
19	Weighing balance 30kg×1gm	2
20	Weighing balance 200×0.001gm	2

## ENGINEERING GRAPHICS LAB

**Faculty Lab- Incharge: Dr. Shobha Ram**

**Lab Assistant: Mr. Sunil Kumar**

S.NO.	NAME OF THE SOFTWARE	NO. OF LICENSE/USERS	STATUS
1.	AutoCAD	-	<b>PERPETUAL</b>

## REMOTE SENSING AND GIS LAB

**Faculty Lab- Incharge: Dr. Shobha Ram**

**Lab Assistant: Mr. Sunil Kumar**

S.NO.	NAME OF THE SOFTWARE	NO. OF LICENSE/USERS	STATUS
1.	ERDAS PROFESSIONAL BUNDLE	IMAGINE GEOSPATIAL 01 LICENSE/15 USER	<b>PERPETUAL</b>

## CAD LAB - I

**Faculty Lab- Incharge: Dr. Shilpa Pal**

**Lab Assistant: Mr. Ram Parvesh**

S.NO.	NAME OF THE SOFTWARE	NO. OF LICENSE/USERS	STATUS
1.	BENTLEY ACADEMIC PERPETUAL OFFERING SOLUTION <ul style="list-style-type: none"><li>• STAAD.Pro</li><li>• STAAD Foundation Advanced</li><li>• STAAD Beava</li><li>• Water GEMS</li><li>• Sewer GEMS</li><li>• Storm CAD and many more</li></ul>	30 USER	<b>PERPETUAL</b> and <b>AMC</b> taken for 3 Years W.E.F. 29 <sup>TH</sup> November 2017

## **MATERIAL TESTING LAB**

**Faculty Lab- Incharge: Dr. Shilpa Pal**

**Lab Assistant: Mr. Ram Pravesh**

<b>S.NO.</b>	<b>NAME OF EQUIPMENT</b>	<b>QUANTITY</b>
1	Torsion Testers	1
2	Impact Impact Testing Machine	1
3	Spring Testing Machine Model:-H50KL Down rated H25KN	1
4	Universal Testing Machine	1
5	Computerised Vickers Cum Brinell Hardness Testing Machine	1
6	Rockwell Hardness Tester	1
7	TQ-UNSYMM. Bending and shear center-STR7	1
8	TQ-Three-Pinned Arch-STR9	1
9	TQ-Two-Pinned Arch-STR10	1
10	TQ-Universal Test Frame-STR1	1
11	TQ-Digital Force Display-STR1A	1
12	TQ-Automatic Data Acquisition Unit-STR2000	1

## **CONCRETE LAB**

**Faculty Lab- Incharge: Dr. Shilpa Pal**

**Lab Assistant: Mr. Ram Pravesh**

<b>S.NO.</b>	<b>NAME OF EQUIPMENT</b>	<b>QUANTITY</b>
1	Air Permeability Apparatus	6
2	Mechanical Stop Watch	6
3	Vicat Apparatus	6
4	Le- Chatelier Apparatus	3
5	Le- Chatelier water Bath	1
6	Shrinkage Bar Mould	6
7	Flow Table Electrically Operated	1
8	Cement Tensile Testing Machine	1
9	Thickness Gauge	3

10	Length Gauge	3
11	Density Basket	3
12	Aggregate Impact Tester	1
13	Flow Table Apparatus Concrete	1
14	Compaction Factor Apparatus	1
15	Concrete Mixer	1
16	Beam Mould Size 150 x150 x 700mm Size as per EN 12390	6
17	Vibration Table	1
18	Sieve shaker, Motorized For 20cm Die Sieve with built in digital Timer	1
19	Sieve Frame 30cm x 80mm	1
20	Sieve Frame 30cm x 70mm	1
21	Sieve Frame 30cm x 40mm	1
22	Sieve Frame 30cm x 20mm	1
23	Sieve Frame 30cm x 12.5mm	1
24	Sieve Frame 30cm x 10mm	1
25	Sieve Frame 30cm x 4.75mm	1
26	Sieve Frame 30cm x 2.36mm	1
27	Sieve Frame 30cm x 1.18mm	1
28	Sieve Frame 30cm x 600um	1
29	Sieve Frame 30cm x 300um	1
30	Sieve Frame 30cm x 150um	1
31	Sieve Frame 30cm x 90um	1
32	Pan and Cover for 30cm dia Sieve	1
33	Sieve Brass Frame 20cm dia x 4.75mm	1
34	Sieve Brass Frame 20cm dia x 3.35mm	1
35	Sieve Brass Frame 20cm dia x 2.36mm	1
36	Sieve Brass Frame 20cm dia x 1.18mm	1
37	Sieve Brass Frame 20cm dia x 600μ	1
38	Sieve Brass Frame 20cm dia x 300μ	1
39	Sieve Brass Frame 20cm dia x 150μ	1
40	Sieve Brass Frame 20cm dia x 90μ	1

41	Sieve Brass Frame 20cm dia x 75μ	1
42	Sieve Brass Frame 20cm dia x 10mm	1
43	Brass Pan and cover 20cm dia Sieve	1
44	Electronic Balance Cap. 300kg x 50gm	1
45	Electronic Balance Cap. 5kg x 1gm	1
46	Electronic Balance Cap. 2kg x 1gm	1
47	Digital Vernier Caliper 300mm x 0.01mm	1
48	Oven	1
49	Beam Mould Size 100 x100 x 500mm Size as per EN 12390	6
50	Vie-Bee Consistometer	1
51	Vibrating Machine with built in digital Timer.	1
52	Curing Tank	1
53	Mould Cast Iron for 70.6 mm cube with ISI Certification mark as per IS : 10080	24
54	Mould Cast Iron for 150 mm cube with ISI Certification mark as per IS : 10086	36
55	Cylindrical Mould for 150mm x 300mm with ISI marks	12
56	Gauging Trowel BS: 12, IS : 10086-1982	12
57	Crushing Value Apparatus IS: 9376HA 50.85 75mm dia	1
58	Slump Test Apparatus	3
59	Adopter for 30 cm dia Sieves	1
60	Sample Tray Made of enamel sheet 600 x 450 x50 mm	3
61	Sample Tray Made of enamel sheet 450 x 300 x 40 mm	4
62	Sample Tray Made of enamel sheet 300x 250 x 40 mm	4
63	Sample Tray Made of enamel sheet 300x 250 x 40 mm	1
64	PVC Measuring cylinder 1000 ml	1
65	PVC Measuring cylinder 500 ml	1
66	PVC Measuring cylinder 250 ml	4
67	PVC Measuring cylinder 100 ml	4
68	Length Comparator	1
69	Concrete test Hammer	1
70	Ultrasonic Concrete Tester	1
71	Compression Testing Machine 500PC	1

72	Compression Testing Machine 2000PC	1
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## TRANSPORTATION LAB

**Faculty Lab- Incharge : Dr. Shilpa Pal**

**Lab Superintendent: Mr. Dushyant Pal Singh**

**Lab Assistant: Mr. Anuj Yadav**

S.NO.	NAME OF EQUIPMENT	QUANTITY
1	Sieve shaker motorized with digital counter	1
2	Marshal mould with caller and plate mode of stell(4”dia)	24
3	Benkelman beam	1
4	Deval abrasion testing machine on aggregates	1
5	Crushing value apparatus	1
6	Aggregate impact tester	1
7	Los Abrasion testing machine angles	1
8	Thickness gauge	1
9	Sieve GI frame 30cm dia×125mm	1
10	Sieve GI frame 30cm dia×90 mm	1
11	Sieve GI frame 30cm dia×80 mm	1
12	Sieve GI frame 30cm dia×75 mm	1
13	Sieve GI frame 30cm dia×63 mm	1
14	Sieve GI frame 30cm dia×53 mm	1
15	Sieve GI frame 30cm dia×45 mm	1
16	Sieve GI frame 30cm dia×40 mm	1
17	Sieve GI frame 30cm dia×22.4 mm	1
18	Sieve GI frame 30cm dia×20 mm	1
19	Sieve GI frame 30cm dia×12.5mm	1
20	Sieve GI frame 30cm dia×11.2mm	1
21	Sieve GI frame 30cm dia×10.0 mm	1
22	Sieve GI frame 30cm dia×9.5mm	1
23	Sieve GI frame 30cm dia×6.3mm	1
24	Pan and cover for 30cm dia sieve	1

25	Adapter for 30cm dia sieves sieve analysis of sand	1
26	Sieve brass frame 20cm dia 4.75mm	1
27	Sieve brass frame 20cm dia 3.35mm	1
28	Sieve brass frame 20cm dia 2.36mm	1
29	Sieve brass frame 20cm dia 1.18mm	1
30	Sieve brass frame 20cm dia 600 $\mu$	1
31	Sieve brass frame 20cm dia 300 $\mu$	1
31	Sieve brass frame 20cm dia 150 $\mu$	1
33	Sieve brass frame 20cm dia 75 $\mu$	1
34	Sieve brass frame 20cm dia 10mm	1
35	Pan and cover for 20cm dia sieve	1
36	Universal penetrometer	1
37	Marshall apparatus	1
38	Automatic compactor for bituminous mixes	1
39	Water bath	1
40	CBR apparatus	1
41	Mild steel plate	12
42	Ring and Ball apparatus centrifuge extractor	1
43	Ductility testing machine	1
44	Bitumen mixer specific gravity on stone/aggregate	1
45	Hot plate	1

## ENVIRONMENT ENGINEERING LAB

**Faculty Lab- Incharge : Dr. Shobha Ram**

**Lab Superintendent: Mr. Dushyant Pal Singh**

**Lab Assistant: Mr. Ram Singh**

S.NO.	NAME OF EQUIPMENT	QUANTITY
1	Double distilled water unit	02
2	Hot plate	04
3	Ph meter	01
4	Turbidity meter	01
5	Conductivity / TDS meter	01



6	BOD analysis system	01
7	BOD Track II, Reagent Set W/Bottles	02
8	BOD Incubator	01
9	Water bath	02
10	Flame Photometer	01
11	Digital Colony Counter	02
12	Automatic absorption Spectrophotometer	01
13	Bomb Calorimeter	01
14	Muffle Furnace	02
15	Magnetic Stirrer	02
16	Analytical Balance	02
17	Water Quality Testing Kite	01
18	B.O.D Tracker	01
19	Sound Level Meter	02
20	Titration Unit Tim 800	02
21	Incubator Shaker	02
22	Digital Spectrophotometer	01
23	Fume Hood	01
24	Centrifuge	02
25	Oven With Thermostatic Control	02
26	Ozone meter	01
27	Lab stirrer	01
28	Oil and Grease Analysis apparatus	01
29	Khaldhal Nitrogen Unite (TKN Unit)	01
30	Vortex mixer	01
31	Microscope (Magnus)	06
32	Jar apparatus	01

## **Advance Environmental Engineering lab**

**Faculty Lab- Incharge: Dr. Shobha Ram**

**Technical Superintendent: Mr. Dushyant Pal Singh**

**Lab Assistant: Mr. Ram Singh**

<b>S.No</b>	<b>NAME OF EQUIPMENT</b>	<b>QUANTITY</b>
1	AAS	01
2	BOD Incubator	02
3	Gaseous Pollutants Sampler	01
4	Gas chromatograph	01
5	Automatic Weather Monitoring System	01
6	Respirable Dust Sampler	01
7	Pipits (Electronics)	10
8	Horizontal laminar Flow Cabinet	01
9	Ultra pure Mile-Q Unite	01

## **SURVEYING LAB**

**Faculty Lab- Incharge: Dr. Shobha Ram**

**Lab Assistant: Mr. Anuj Yadav**

<b>S.NO</b>	<b>NAME OF EQUIPMENT</b>	<b>QUANTITY</b>
1	Total station-tremble S3 2”(2boxes	1
2	Dumpy Level	10
3	Dual Frequency GPS (3 boxes)-	1
4	Plane Table Box	5
5	Plumbing Fork	7
6	Vernier Theodolite	10
7	Telescopic Alidade	7
8	Hand Level	2
9	Clinometer	2
10	Surveyors Compass	5
11	Prismatic Compass	10

12	Steel Tape (30m)	4
13	Trough Compasses	7
14	Spirit Level	7
15	Optical Square	20
16	Plumb Bob	15
17	Cross Staff	12
18	Wooden Pegs	80
19	Arrows	150
20	Tilting Level	2
21	Auto Level	2
22	Electronic Theodolite	2
23	Tapes(bill trading),30m ,50m	10
24	Total station M3	3
25	Prisem TS	4
26	Digital Planimeter	2
27	Leaser Distance Meter	2
28	Digital Level	5
29	Tripad stand-GPS-1No.`	1
30	Staves	12
31	Hand Held GPS (100 mm)	5
32	Single frequency GPS (pm100)	5
33	Tribatch –Base Station	1
34	Gunter chain 66”	3
35	Aluminum telescope rod	5
36	Poles of GPS (extra)	4
37	Metric chain-30m	3
38	Metric chain-20m	3
39	Revenue chain-33”	3

# INSTRUMENTS AT A GALANCE

## TRANSPORTATION LAB



**Water bath,gravity jar**



**Impact value tester,bitumen mixer**



**GI sieve set**



**Penetrometer,hot plate,ring and ball,mould**



**Marshall apparatus**



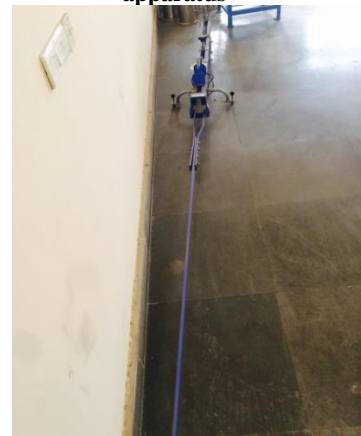
**Automatic compactor for bituminous mixes, CBR apparatus**



**Ductility testing machine**



**Buoyancy balance**



**Benkelman beam**

## **GEOTECHNICAL LAB**



**Direct shear test electronic complete**



**Sample extractor**



**Weighing balance 30kgx1gm,  
Weighing balance 200x0.001gm**



**Consolidometer test**



**Universal oven**



**Standard Procter compaction  
apparatus, measuring jar  
cylinder**



**Liquid Limit apparatus motorized  
with grooving tool**



**Pycnometer, Hydrometer**



## **ENVIRONMENTAL ENGINEERING LAB**



**Turbidity meter, Centrifuge, Flame Photometer**



**B.O.D Tracker, Dig, Spectrophotometer**



**Hot plate, Titration Unit**



**Titration Unit, Oil and Grease apparatus**



**TKN Unit, Water bath, Analytical Balance, Muffle Furnace**



**Double distilled water unit, Microscope (Magnus)**



**Digital Colony Counter, Bomb Calorimeter**



**Fume Hood**



**Incubator Shaker**

## **ADVANCED ENVIRONMENTAL ENGINEERING LAB**



**AAS**



**Ultra pure Mile-Q Unite**



**Jar apparatus,oven**



**Muffle Furnace**



**Horizontal laminar Flow Cabinet**



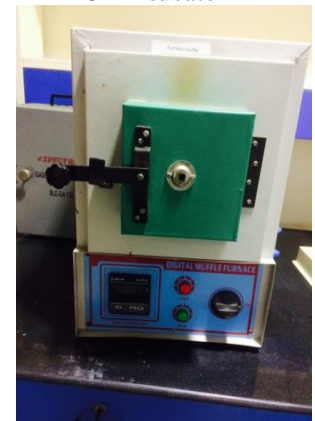
**BOD Incubator**



**BOD Incubator, oven**



**Respirable Dust Sampler**



**Muffle Furnace**

**ENGINEERING GRAPHICS LAB, DESIGN LAB, BUILDING DESIGN  
& DRAWING LAB**

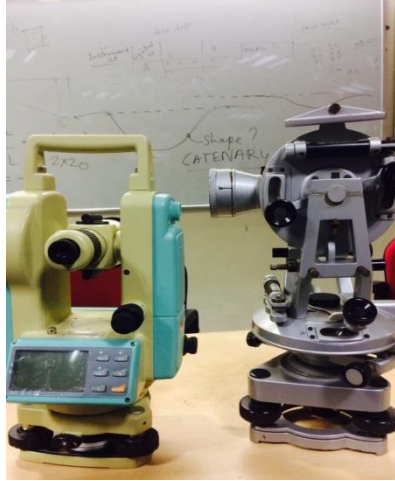




## **SURVEYING LAB**



**Robotic Total station**



**Electronic Theodolite, Vernier Theodolite**



**Digital Planimeter, Total station**



**Plane Table Box**



**Stands**



**Auto Level, Digital Level**



**Single frequency GPS (pm100),  
Hand Held GPS (100 mm)**



**Auto Level, Dumpy level**



**Tape , Surveyors Compass,  
Prismatic Compass, Dual  
Frequency GPS**

## **MATERIAL TESTING LAB, STRUCTURAL ANALYSIS LAB – I**



**Pendulum Impact Tester**



**Spring Testing Machine**



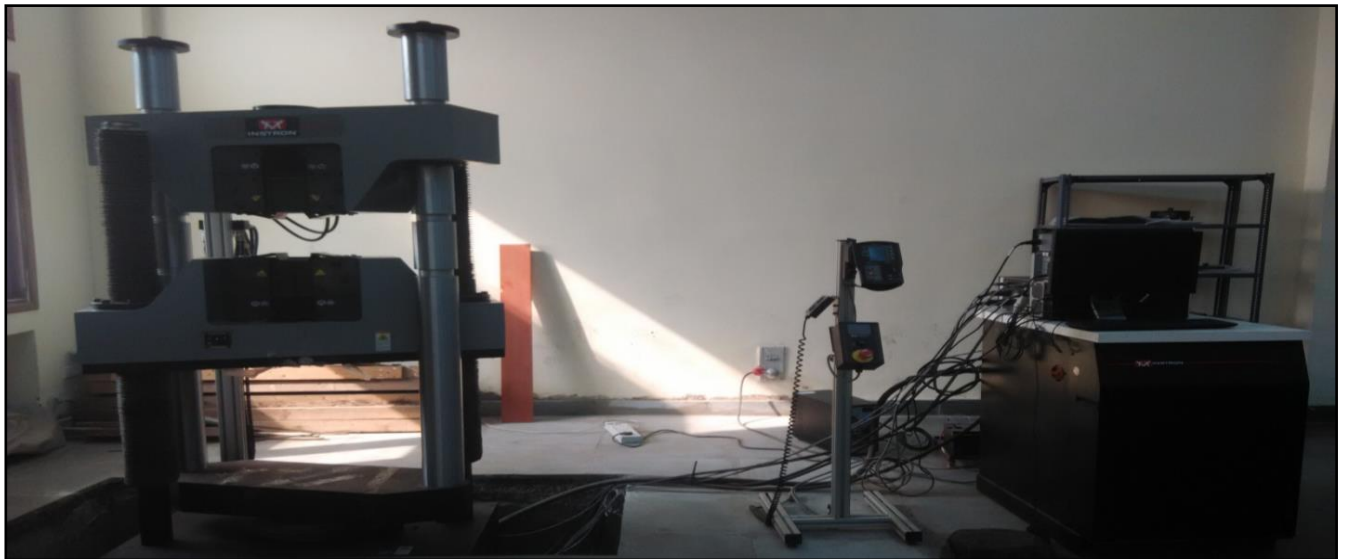
**Torsion Testing Machine**



**Rockwell Hardness Tester**



**Computerised Vickers Cum Brinell Hardness Testing Machine**



**Universal Testing Machine (U.T.M)**



## CONCRETE LAB



Compression Testing Machine 500KN, 2000KN



Rebound Hammer, Ultrasonic Pulse Velocity Tester



Hot Oven, Le- Chatelier water Bath



Cement Tensile Testing Machine, Sieve shaker



Mould Cast Iron for 150 mm cube