

List of Machinery and Equipment for
DAE
GIS AND RS in Land & Mine Surveying

GIS Software and Hardware

Sr. No.	Name of Tools/ Equipment /Machinery	Quantity
1	Esri ArcGIS Pro Desktop Advanced	1 license
2	Esri ArcGIS Enterprise Solutions	1 enterprise solution
3	QGIS (Open Source)	N/A
4	MapInfo Professional	1 license
5	Global Mapper	1 license
6	Manifold System	1 license
7	Drone data processing Pix4D Mapper, Pix4D Matic, Bentley Context Capture	1 license
8	Drone Deploy Individual Plan	1 license
9	Drone Deploy Business Plan	1 license
10	Agisoft Metashape Standard Edition	1 license
11	Agisoft Metashape Professional Edition	1 license
12	ENVI Classic	1 license
13	ERDAS IMAGINE Professional Edition	1 license
14	Google Earth Engine (Open Source)	N/A
15	SNAP (ESA's Sentinel Application Platform)	N/A
16	High-performance Workstations	1 workstation
17	Servers	1 server
18	NAS and SAN	Varies
19	Handheld GPS Devices	1 device
20	Professional GNSS Receivers	1 receiver
21	Consumer-grade Drones	1 drone
22	Professional-grade Drones	1 drone
23	Total Stations	1 station
24	Theodolites	1 theodolite
25	Large-format Plotters and Printers	1 plotter/printer

LIST Equipment OF COMPUTER SECTION

S,No	Name of Tools/ Equipment /Machinery	Quantity
1	Computer i7	20
2	Printer HP 1300	01
3	LaserJet Pro 400 M401a	02
4	Scanner Canon Dr.-5010C	01
5	Projector EIKI	01
6	Projector Optoma	01
7	Project Sheet	02
8	Stablizer	13
9	Blower	01
10	AC	02
11	UPS Alfa	02
12	UPS Homage 2000 VA	01
13	Dell 490 Blade Server	01
14	Dell Optiplex 760 Lab domain controller	01
15	Dell Optiplex 760 Server Firewall	01
16	Access Router	01
17	Network Switch	02

List of Lab Equipment _Chemistry Lab

Sr. No.	Name of Tools/ Equipment / Machinery with specification	Quantity
1	First aid Box with all contents / accessories	01
2	Fire extinguisher (Dry chemical BC or ABC type)	01
3	Laboratory Drying oven (Best quality)	01
4	Fire sand buckets (4) with stand (complete set)	01
5	Safety storage cabinets	02
6	Emergency eye wash station with all accessories	01
7	Emergency shower station (Complete set)	01
8	Chemical spill kit	04
9	Eye wash bottles	06
10	3M Safety goggles (Eye Protection)	60
11	Chemical resistant shoe cover	08
12	Disposable Masks (medium)	12 boxes
13	Sterile gauze pads (different size)	12 pack
14	Adhesive/ medical tapes	24
15	Antiseptic wipes	12 boxes
16	Safety / Protective gloves	24
17	Disposable latex examination gloves (medium size)	12 boxes
18	Polythene gloves (Disposable)	12 packets
19	Gauze rolls 2" x 2.5 yds, 1 count	12 boxes
20	Medical scissors	06
21	Antibiotic ointments	02
22	antiseptic solution	02
23	Rubber Pipet Pump / bulb (best quality)	30
24	Nylon test tube / cylinder brushes with cotton tip (different size)-40	40
25	Density bottles	10
26	Burette 100ml	20
27	Metallic stand of Burette	10
28	Bottle with stopper 60cc	30
29	Conical Flask 50ml	20
30	Conical Flask 25ml	20
31	Analytical balance (digital Electric Balance 0.001g to 500g)	01
32	Universal indicator paper (pH paper)	24 roll

33	pH meter with all accessories	01
34	Digital TDS meter in ppm	04
35	Litmus paper (Red + blue)	12+12
36	Whatman Filter Paper- 1 (60x60cm sheet)	50
37	Molecular model kit (Ball and stick)	02
38	Molecular model kit (Ball and spring)	02
39	Lab display chart (Periodic Table-long form)	01
40	Lab display charts (Chemistry experiments and Safety awareness)	20
41	Fusion tubes (packet)	04
42	Steel Almirahs	02
43	Charcoal Cavity Block	20
44	Measuring Flask 500ml	06
45	Measuring Flask 100ml	06
46	Funnel 3 inch	12
47	Funnel 90mm	06
48	Grinding Boul pestle & Mortar	10
49	Glass Tube	30
50	Platinum Wire	40
51	Reagent Bottle 125ml	30
52	Reagent Bottle 250ml	30
53	Reagent Bottle 500ml	30
54	Thermometer -10 to 100 /110°C (Red Mercury)	12
55	Water Bath	10
56	Dollar Ink black	10
57	Burnt Tube	10
58	Scotch Tape (large)	12
59	Spraying Bottle	15
60	Transparent 200 mm Borosilicate Condenser	12
61	Water pipe (rubber) as per condenser's inlets size	100ft
62	Condenser Adapters (head, recovery, bend, quickfit – complete set of adopters)	06 set
63	Wooden cork	12
64	Bunsen burner	12
65	Spatula (small)	12
66	Forceps	12
67	Sodium metal	1kg
68	Silver nitrate	500g
69	Zinc oxide	1kg
70	Iodine	50g
71	methyl orange	100g
72	Methylene blue	100g
73	Ceric sulphate	500g
74	Phenolphthalein	100g

75	DPPH	100g
76	Spirit	24liter
77	Ethanol (2.5L/bottle)	05
78	Hydrochloric acid 37% HCl (2.5lit/bottle)	05
79	Sulphuric acid 98% H ₂ SO ₄ (2.5lit/bottle)	05
80	Liq. Ammonia (2L/bottle)	02
81	Benzene ((__ml/bottle)	01
82	Nitric acid (2.5L/bottle)	01
83	Ether solvent (2.5L/bottle)	02
84	Carbon tetrachloride (2.5L/bottle)	02
85	Hexane (2.5L/bottle)	02
86	Ethyl acetate (2.5L/bottle)	02
87	Chloroform (2.5L/bottle)	01
88	Fehling solution	02
89	Acetone (2.5L/bottle)	01
90	Methanol (2.5L/bottle)	02

List of Lab Equipment Physics

Sr.No	Item	QTY
01	Half Meter Rod	30
02	Wedge	50
03	Iron Stand	30
04	Rubber Pad	50
05	Plumb Line	10
06	Beaker	40
07	Test Tube	40
08	Convex Lens	40
09	Concave Lens	40
10	Two Needles	20
11	Optical Needles up rights for mounting lens and needles	20
12	Kintting needles	20
13	Optical Bench	20
14	Convex mirror	20
15	Four up rights	20
16	Sodium Light magnifying glass	20
17	Drawing Board	50
18	Drawing Pins	One dozen packets
19	Set Square	50
20	Meter Rod	30
21	Vernier Calliper	20
22	Micro Meter Screw Gauge	20
23	Resonance Tube Apparatus	10
24	Free Fall Apparatus	10
25	Grave Sand Apparatus	10
26	Stop Watch	20
27	Helical Spring Fitted with a pointer at its lower end	20
28	Weight Box	10
29	Inclinded Plane Apparatus	10
30	Galvano meter	10
31	Digital Vernier Calliper	10
32	Digital Micro meter Screw Gauge	10
33	Tools Kit	02
34	Digital AVO Meter	05
35	Spring Balance	20
36	Split Cork	10 dozen
37	A Scale graduated on a plane mirror Strip behind the spring	12
38	Wooden Board	36
39	Fine Cotton Thread	12 Rolls
40	Wire of Different diameter	6 meter each

LIST OF SURVEY LAB

Sr. No.	Name of Tools/ Equipment /Machinery	Quantity
01.	GPS	02
02.	Theodolite	05
03.	Auto Level.	03
04.	Digital Level.	03
05.	Brunton Compass with Dumping Device.	10
06.	Lux Meter.	02
07.	Sound Level Metere.	01
08.	Anemometer	01
09.	Velometer.	01
10.	Planimeter Digital	05
11.	Cross Staff	10
12.	Optical Square.	05
13.	Invar Tape	10
14.	Steel Tape	05
15.	Linen Tape	10
16.	Matalic Tape.	10
17.	Telescopic Compass with Accessories.	05
18.	Digitiser	02
19.	Prismatic Compass with Accessories.	05
20.	Surveyor Compass with Accessories.	05
21.	Passo meter	05
22.	Odometer	5
23.	Pedometer	5
24	Spedometer	5
25	Parumbulateor	5
26	Matric Chain 10 m	5
27	Matric Chang 30	5
28	Steel Band	5
29	Gunter Chain	10
30	Revenue Chain	5
31	Ranging Rods 4 ft.	50
32	Ranging Pole 8ft	10
33	Barometer	5
34	Prism Square	5
35	Dumpy Level, Y Level with accessories	4
36	Cookes Level with accessories	4
37	Cushing Level with Accessories	4
38	Leveing Staff	10
39	Cookes Reversible Level with accessories	4
40	Stereoscopic with Paralex Bar	1
41	Micrometer Theodolite	2

42	Vernier Theodolite	4
43	Laser Level with accessories	3
44	Telescopic Alided with accessories	10
45	Substance Bar with accessories	1
46	Photo Scan	1
47	Abney Level	5
48	De lisle Clinometer	5
49	Proportional Compass	4
50	Pentagraph	5
51	Eidograph Rim	5
52	Tecometer with fixed hair and with accessories	1
53	Stadia Rods	5
54	Straining Device	2
55	Marking Sticks	5
56	Supporting Stacks	5
57	Horizontal Staff with Telemeter	2
58	Computer of latest specification with Plotter	4
59	Reflector for Total Station with Stands	5
60	World Globe	5
61	Cronometer	5
62	Sunlight Filter	5
63	Sun Signal	5
64	Sounding Poles	5
65	Sounding Machine Echometer	2
66	Signal of Sounding	2
67	Station Pointer	2
68	Plotter/Scanner 42 in with accessories	1
69	Box Sextant	5
70	SP-306 Laser Level	1
71	J6E Transit Optical Theodolite	1
72	Barometer	1

LIST OF CONSUMABLES (Optional / where applicable)

Sr. No.	Nomenclature of Consumable Items	Quantity
1.	Paper	As required
2.	Drawing Papers	As required
3.	Stationary items	As per need

LIST OF FURNITURE & Fixture (if applicable)

Sr. No.	List of Items	Quantity
4.	Student Chairs	50
5.	Dice	02
6.	Computer Table with Chair	25
7.	Instructor Chair with Table	02
8.	LCD	01
9.	White Board	01
10.	Printer	02