

MODEL SCHOOLS – LIST OF LABORATORY EQUIPMENT

1. CHEMISTRY

b. Apparatus

S.NO.	Name of the Item	Description	Quantity	Price
1	Chemical Balance		4	
2	Weight Box (with rider and forces)		4	
3	Melting point apparatus	Borosil	6	
4	Boiling point apparatus		6	
5	Cork boring set		2	
6	Rubber corks		20	
7	Standard flask – 1 liter	Borosil	2	
8	Standard flask – 500 ml		4	
9	Standard flask – 250 ml		6	
10	Standard flask – 100 ml		20	
11	Beakers – 500 ml		6	
12	Beakers – 250 ml		25	
13	Beakers – 100 ml		25	
14	Test tubes (20ml)		200	
15	Boiling test tubes		25	
16	Thermometers	0 - 360° C	6	
17	Thermometers	0 - 110° C	6	
18	Spatulas (Steel)	Steel	25	
19	Capillary tubes		1Box	
20	Watch glasses – 4"		20	
21	Watch glasses – 3"		20	
22	Glass rods		2 kg	
23	Glass tubes		2 kg	
24	Reagent bottles (N.M) – 250ml	Glass	100	
25	Reagent bottles (N.M) – 100ml	Glass	20	
26	Reagent bottles (Amber coloured) – 250ml	Glass	24	
27	Funnels – 3'	Glass	25	
28	Funnels – 5'	Glass	12	
29	Bunsen Burners	Bross base with r	24	
30	Kip's Apparatus	Glass or plastic	2	
31	Water baths	Iron	6	
32	Sand baths	Iron	6	
33	Burettes – 50 ml	Borosil / Teflon	25	
34	Pipette – 20ml	Borosil	25	
35	Conical flasks – 250ml	Borosil	25	
36	Burette stands	Iron	25	
37	Burette clamps	Steel	25	
38	Porcelain tiles / glazed tiles		25	
39	Measuring Jars – 1 liter	Borosil	2	
40	Measuring Jars – 500 ml	Borosil	2	
41	Measuring Jars – 25 ml	Borosil	2	
42	Fractional pipettes – 20ml	Borosil	4	
43	Tripod stands	Iron	24	
44	Wire gauge		24	
45	Weighing bottle (small)		6	
46	Draper with test – 8"		24	
47	Glass Jars		10	
48	Distillation set		1	
49	Round bottomed flasks 50ml		5	
50	China dishes 3"		5	
51	Crucibles 3"		5	
52	Red litmus paper packets		4	
53	Blue litmus paper packets		4	
54	Red and blue litmus solutions each 500 ml		2	
55	Delivery tubes bent		10	
56	Mono meter		2	
57	Balloons packs		10	

58	Barometer mercury		2
59	Ball and stick atomic model box		2
60	Beehive shelves		4
61	Gas Jars with lids		5
62	Water troughs		5
63	Test tubes cleaning brushes		10
64	Thistle funnels		4
65	Glass funnels		5
66	Copper turnings		250 grams
67	Iron turnings		250 grams
68	P ^H meter (Standard type)		2
69	Wash Bottles(Plastic)500 MI		25

B. Chemicals

1	Aluminum Nitrate	500 grams	
2	Aluminum Sulphate	500 grams	
3	Aluminum Chloride	500 grams	
4	Ammonium Bromide	2 × 500 grams	
5	Ammonium Carbonate	500 grams	
6	Ammonium Chloride	500 grams	
7	Ammonium Sulphate	500 grams	
8	Ammonium Phosphate	500 grams	
9	Ammonium Nitrate	500 grams	
10	Barium Bromide	500 grams	
11	Barium Bromide	500 grams	
12	Barium Chloride	500 grams	
13	Barium Carbonate	500 grams	
14	Calcium Carbonate	500 grams	
15	Calcium Chloride	500 grams	
16	Calcium Nitrate	500 grams	
17	Copper Nitrate	500 grams	
18	Copper Sulphate	500 grams	
19	Ferrous Sulphate	500 grams	
20	Ferric Chloride	500 grams	
21	Ferrous Sulphide	500 grams	
22	Lead Nitrate	500 grams	
23	Magnesium Chloride	500 grams	
24	Magnesium Nitrate	500 grams	
25	Magnesium Sulphate	500 grams	
26	Magnesium Sulphate	500 grams	
27	Manganese Sulphate	500 grams	
28	Manganese Chloride	500 grams	
29	Zinc Sulphide	500 grams	
30	Zinc Sulphate	500 grams	
31	Zinc Phosphate	2 × 500 grams	
32	Sodium Carbonate	500 grams	
33	Sodium Hydroxide	500 grams	
34	Sodium bicarbonate	500 grams	
35	Potassium Hydroxide	500 grams	
36	Potassium Iodide	500 grams	
37	Potassium Dichromate	500 grams	
38	Potassium Chromate	500 grams	
39	Potassium Permanganate	500 grams	
40	Potassium Ferro cyanide	500 grams	
41	Potassium Ferric cyanide	500 grams	
42	Hydrochloric Acid	2 × 2.5 liter	
43	Sulphuric Acid	2 × 2.5 liter	
44	Nitric Acid	2.5 liter	
45	Acetic Acid	2.5 liter	
46	Ammonia (lig)	2.5 liter	
47	Oxalic Acid	500 grams	
48	Mohr's salt (Ferrous Ammonium Sulphate)	500 grams	

49	Denatured spirit	2 × 500 grams		
50	Distilled water (for year)	40 liters		
51	Benzoic Acid	500 grams		
52	Acetaldehyde	500 ml		
53	Glucose / Dextrose	500 grams		
54	Fructose	500 grams		
55	Phenol	500 ml		
56	Aniline	500 ml		
57	Benzaldelyde	500 ml		
58	Acetone	2 × 500 ml		
59	Manganese Dioxide	500 grams		
60	Silver Nitrate	2 × 500 ml		
61	Copper Turnings	500 grams		
62	Sodium Sulphide flakers	500 grams		
63	Ammonium oxalate	500 grams		
64	Disodium Hydrogen Phosphate	500 grams		
65	Nessler's Reagent	4 × 125 ml		
66	Methyl orange	4 × 125 ml		
67	Phenolphthalein	4 × 125 ml		
68	Lime water	4 × 250 ml		
69	Filter papers (long sheets)		24	
70	Toluene	500 ml		
71	Schiff's reagent	500 ml		
72	Benedict solution	500 ml		
73	Sodium metal	100 grams		
74	Sodium nitrite	500 grams		
75	Sodium Nitro preside	500 grams		
76	Sodium Nitrate	500 grams		
77	A – Naphthalene	250 grams		
78	P – Naphthalene	250 grams		
79	2,4 – Di Nitro Phenyl Hydrazine (2,4 – DNP)	25 grams		
80	Resorcinol	500 grams		
81	Ferric Sulphate	500 grams		
82	Aluminum hydroxide	500 grams		
83	Ferric hydroxide	500 grams		
84	Arsenic Sulphide	500 grams		
85	Sodium Thiosulphate	500 grams		
86	Hydrogen peroxide	500 ml		
87	Sodium Sulphite	500 grams		
88	Starch	500 grams		
89	Potassium Nitrate	500 grams		
90	Chloroform	500 ml		
91	Carbon tetra chloride	500 ml		
92	Cobalt chloride	250 grams		
93	Mercuric chloride	250 grams		
94	Strontium chloride	250 grams		
95	Potassium bisulphate	500 grams		
96	PH indicator	3 Boxes		
97	Universal indicator	2 × 125 ml		
98	Zinc Oxide	500 grams		
99	Calcium Carbonate	500 grams		
100	Calcium Hydroxide	500 grams		
101	Magnesium wire	1 Packet		
102	Potassium Chloride	500 grams		
103	Cupric Oxide	250 grams		
104	Sulpher powder	500 grams		
105	Paraffin wax	500 grams		
106	Mercury	250 grams		
107	Phosphorous	250 grams		
108	Sodium metal	100 grams		
109	Potassium Sulphate	250 grams		

110	Ferric Sulphate	250 grams		
111	Sodium acetate	500 grams		
112	Iodine pellets	250 grams		
113	Distilled water	1 liter		
114	Potassium Thiocyanate	500 grams		
115	Hexa aqua cobalt II chloride	500 grams		
116	Magnesium nitrite	500 grams		
117	Lead Acetate	500 grams		
118	Dimethyl Glyoxime	500 grams		
119	Ammonium Acetate	500 grams		
120	Potassium Iodate	500 grams		

c. Charts / Models

S.No.	Name of the Chart / Model	Description	Quantity	Price
1	Carbon Compounds model set. (large)	Plastic	2	
2	Crystal models set	-	1	
3	NaCl crystal model	-	1	
4	CsCl Crystal model	-	1	
5	Graphite & Diamond models	-	1	
6	Hybridization of C – chart	-	1	
7	Preparation of NaOH. Chart	-	1	
8	Chart of Furnaces	-	1	
9	Laboratory Preparation of Oxygen			
10	Laboratory Preparation of Carbon Dioxide			
11	Laboratory Preparation of Hydrogen			
12	Laboratory Preparation of Hydrogen Sulphide			
13	Laboratory Preparation of Sulphur Dioxide			
14	Laboratory Preparation of Ammonia			
15	Nitrogen cycle			
16	Portrait of Sir J.J. Thomson			
17	Portrait of Sir Einstein			
18	Portrait of Sir Swami Nathan			
19	Portrait of Sir Abdul Kalam			
20	Portrait of Sir Isaac Newton			
21	Preparation of sugar			
23	Periodic table			
24	Nitrogen cycle			
25	Portrait of Sir Rutherford			
26	Chart showing Rutherford's α -scattering expt. and atomic model.			

MODEL SCHOOLS – LIST OF LABORATORY EQUIPMENT

1. PHYSICS

S.No.	Apparatus	Description	Quantity required	Price
1	Vernier Calipers	15cm long stainless steel – inches and Centimeters along edges L.C. 0.01 cm and 1/200 " with engine divided scale.	10	
2	Screw gauges	2 cm Scale – 1mm pitch – stainless steel screw – L.C. 0.01 mm, P.S.D =1mm, H.S. Division 100 with ratchet arrangement.	10	
3	Sphero Meter	10mm length pitch scale pitch 1mm – H.S.D 100 divisions – L.C.0.01mm	5	
4	Spheres	Brass made, 1cm, 2cm diameter	10	
5	Cylinders	Brass made, 1cm Diameter 2cm, 3cm length	10	
6	Glass plates (rectangular of squares)	1mm or 2mm thickness	10	
7	Wires	Steel, 1mm thickness	10	
8	Curved glass plates	For Speedometer expt.		
9	Physical Balance	To weigh up to 250gm – two door type case sensitiveness KEROY – Company	10	
10	Weight Boxes	200gm to 1gm usual steps with forceps	10	
11	Fractional weight Boxes	Brass made	20	
12	Half meter scales	Graduated in cm and inches on either edges	20	
13	Meter scales	Graduated in cm and inches on either sides	20	
14	Stop clocks	Standard pattern – with start, stop and fly back or sent to zero	10	
15	Retort Stands	Standard pattern – with clamps	20	
16	Metal Bobs	With hook – 2cm diameter for Simple pendulum	20	
17	Split Corks	Standard pattern	40	
18	Kit to find Spring constant		10	
19	Spring Balances	Setters or best make – rectangle vertical extensive 0-50gm with hanger)	5	
20	Slotted weights	With tanager 50gm – sets (set of 5 x 50gm with hanger)	5	
21	Drawing Boards	Made of Soft wood 20" x 18" , 18" x 15" (for prism, magnetic lines and for concurrent forces)	20	
22	Clamps with pulleys	To be fitted for concurrent forces	10	
23	Boyles law apparatus	Quill tube	10	
24	Travelling Microscope	For surface tension expt standard pattern – L.C. -0.001cm	5	
25	Glass beaker	Borosil 100 C.C.	10	
26	Capillary tubes	About 0.03cm bore 40cm long glass made	20	
27	Calorimeter (Copper)	Standard size with stirrer and lid with wooden enclosure	5	
28	Thermometers	Mercury in glass 0-100°C x 1°C	10	
29	Steam generator	Made of copper – standard size	5	
30	Regnaults heater	For heating solids – standard pattern	5	
31	Lead shots	For finding specific heat	1kg	
32	Coconut oil	Pure form	1 liter	
33	Rubber hammers	Standard type	10	
34	Tuning forks	Set containing 8 tuning forks Bright Steel or chromium plated INCO or ASCO	10 Sets	
35	Resonance air column apparatus	With adjustable height of water column – 500CC reservoir – 120cm long 1cm diameter glass tube standard type	6	
36	Meter Bridge	2 gap type with jockey	6	
37	Table galvanometers	Moving coil type – mounted in case table use 10-0-10 sensitiveness 2-5 microampere / division	5	
38	Standard resistance coils	With two terminals 1,2,5 ohms	5	
39	High resistances	Plug type – 1kohm – 10kohm	5	
40	Manganin wire	Insulated – 30, 24 SWG – coil	10 meters	
41	Constantan wire	Insulated -30, 24 SWG coil	10 meter	
42	Batter holders	Two cells & Four Cells	2 Each	
43	Potentiometer apparatus	Standard type with jockey	2	
44	Concave mirrors	10cm to 12cm focal length	10	
45	Wooden stands	To place concave mirrors, Convex lens	20	
46	Light house (arrangement to fix bulb)	For concave mirror expt	20	
47	Convex lenses	10cm to 12cm focal length	10	
48	Plano concave lens	f = 15cm, 20cm	5	
49	Plano convex lens	f = 10cm, 15cm	2	
50	Convexo concave	f = 10cm, 15cm	2	

51	Concave convexo	f = 10cm, 15cm	2	
52	Concave lens	f = 15cm	2	
53	Screens for Mirrors	Screens for Mirrors	20	
54	Equilateral prisms	Triangular section -3" side – clear crystal crown glass	15	
55	Alpines	2" long and sharp to trace the image	2 boxes	
56	Resistance Boxes	Plug type – 10hm to 100 ohms – current rating 3A	10	
57	Plug keys	Standard type	10	
58	P – N junction diode Boards	Fitted with milli ammeter (0 – 100ma) micro ammeter – voltmeter	10	
59	Zenath diode circuit board	To find reverse breath down voltage	2	
60	Common emitter PNP transistor circuit board	To find current and voltage gains	10	
61	Common emitter NPN transistor circuit board	To find current and voltage gains	10	
62	Cadmium cell	Standard type	10	
63	Batter eliminators	2V-10V Outputs /2 -5 Amps current	6	
64	Plug keys	Two way – standard type	6	
65	Moving coil galvanometer	With lamp and scale arrangement for half – deflection method to find its figure of merit	2	
66	Transformer	Transformer Model	2	
67	Galvanometer	Moving coil type mounted in case table (10hm – 2ohm, 30ohm, 4ohm, 50hm)	10	
68	Voltmeter	Moving coil type – mounted in case table – 0 -5V ×0.1V	10	
69	Plug keys	Single – standard type	10	
70	Commentators'	Plug type	10	
71	Rheostats	Tabular – 3 or 2" diameter 16 to 20 ohms 3 to 4A current rating with 4 terminals	6	
72	Ammeter	Moving coil type – mounted in case table use		
73		0 – 3A × 0.1A	5	
		0 – 1A × 0.01A	5	
	Jockey	Pencil type – Standard type	6	
74	Connecting wires	Properly insulated	10 meters	
75	Digital multimeter	Standard type	1	
76	Extension box		2	
77	Bar magnets	2" long pairs ALNICO	10	
78	Spirit levels		4	
79	Electric stove		1	
80	Stop watch		1	
81	Rubber corks	Holed 1/2 cm	10	
82	Water bath		2	
83	Thread		10 m	
84	Glass Tube cutter		1	
85	Rough Balance (digital)		1	
86	Model astronomical telescope		1	
87	Model terrestrial telescope		1	
88	Compound microscope in stand		1	
For Demonstration Models Required				
89	Spectrometer complete with	1" diameter lances	1	
90	Spectrometer prism		2	
91	Sodium vapor lamp	For spectrometer expt	1	
92	Mercury vapor lamp	For spectrometer expt	1	
93	Transistor characteristic	Experiment Kit	10	
94	Demonstration model LCR circuit		1	
95	Grating to explain interference pattern and diffraction pattern		1	
96	Polaroid's		1	
97	Calcite crystal to explain double refraction		1	
98	Phase tester			
99	Soldering guns	220V, 60 ×, 25 W one each	2	
100	Soldering lead			
101	Tool kit	Items in the tool kit		
		9" pliers with insulating handles (2)		
		Wooden mallet 1 or 2kg		
		Hammers with handle 1kg, 1/2 kg (1 each)		
		Chisels with handle 1", 1/2" (1 each)		
		Long nose pliers with insulating handle – 2		
		End cutting pliers – 1		

		Wire drawing round pliers – 1		
		Metal spheres		
		Hard – saw – 9” blade length		
		Hacksaw with blade		
		Tenon saw		
		Metal scale		
		Bench vices small 2”, Big 4”		
		Flat files – 6”		
		Round file and corner or triangular file		
		Set of screw drivers		
105	Hard grinder with G type bench clamp 2 stones coarse and fire		1	
106	Hand drill with bet of drills		1	
107	Diamond point – glass cutter		1	
108	Manly wrench	Adjustable	1	
109	9” Jack plate complete		1	
110	Hammer and nail puller		1	
111	Long strong screw driver	9” , 15”	1	
112	Cello tape		1 role	
113	Tangent galvanometers	About 15cm diameter with leveling screws 2, 50, 500 turns of coil with magnetic compass box	10	
114	Measuring Tape	20m (metal)	2	
115	Clinical thermometer	-	2	
116	Periscope	-	2	
117	Kaleido scope	-	2	
118	Rectangle glass slabs	10 × 5 × 2cm	4	
119	Torch light	4 cells model	2	
120	Bell Jar	-	4	
121	Electric bell	-	4	
122	Zinc rod	10cm length	2	
123	Carbon rod	10cm length	2	
124	Different types of magnet	Set	2	
125	Magnetic compass big	2cm dia	4	
126	Dry cells	1.5V	4	
127	OV electrical bulbs (torch bulbs)	-	12	
128	Earth layers model	-	2	
129	Bomb calorimeter	-	2	
130	Ball and ring apparatus	-	4	
131	Dip – circle	-	2	
132	Bv battery eliminator	-	2	
133	Laden Jar condenser	-	2	
134	Capacitors	1,2,5&10 micro faraday	10	
135	Aneroid Barometer (working model)	-	1	
136	Over flowing Jar	-	2	
137	Camera model	-	1	
138	Holes containing glass flask for parcels’ law expt.	-	2	
139	Candles packet	-		
140	Disc iron	10cm dia		
141	Electric motor (working model)	-		
142	Gold leaf electroscope	-		
143	Solenoid	-		
144	Ripple tank (with electric bulb)	-		
145	Centrifuge	-		
146	Dynamo model	-		
147	Step – up and step – down Transformer	-		
148	Transformer (models)	-		
149	Newton’s disc	-		
150	Electro magnet	-		
151	Electrolysis of water apparatus	-		
152	Volta meter	-		
153	Hydrometer	-		

BOTANY LABORATORY

ARTICLES AND MATERIAL REQUIRED TO CONDUCT PRACTICALS FOR A BATCH OF 20 STUDENTS

1 Equipment

Sl. No.	Item	Description	Quantity
1	Compound Microscope	Olympus	6
2	Dissection microscope		4
3	Scissors (Medium size)		2
4	Big forceps and small forceps		4 (2+2)
5	Hand magnifying lenses		10
6	Test tube stands		20
7	Test tube holders		20
8	Test tube washing brushes		20
9	Spirit lamp		10
10	Blank slides		2 boxes
11	Slide holding box 50 each		4
12	Blades		5 Pkts
13	Spatula		5
14	Plastic water bowls		20
15	Alpins		10 packets
16	Soaps		12
17	Dettol		200 ml (bottle)
18	Napkins		6
19	Buckets		6
20	Mugs		6
21	Plastic troughs		6
22	Dicot root (Consumables)	Preserved material	100 pieces
23	Monocot (Consumables)	„	100 pieces
24	Dicot stem (Consumables)	„	100 pieces
25	Monocot stem (Consumables)	„	100 pieces
26	Blotting(filter) paper		5 pkts
2 Glass Ware			
1	Beakers (400 ml)		10
2	Beakers (250 ml)		10
3	Beakers (100 ml)		10
4	Test tubes (20 ml)		50
5	Droppers		20
6	Watch glasses (3 inch diameter)		50
7	Glass rods		10
8	Funnels		2
9	Petri dishes (20 ml)	Glass or Plastic	1 box
10	Distil water can's (small size)		20
11	Pippets -2ml,5ml,10ml,20 ml		2 each
12	Conical flask (250 ml)		10
13	Measuring Jars (1 litre)	Plastic or Glass	2
	Measuring Jars (50 ml)		2
	Measuring Jars (100 ml)		5
14	Cover slips		2 boxes
15	Tissue paper		2 pkts
16	Dessicator		1

17	Mortar & pestle(medium size	porcelin	2
18	Capillary tubes		5
19	Brushes (0 number)		20
20	Staining racks		10
21	Dropping bottle		20
22	Cork bores		5
23	Plastic troughs		10
24	Needles		20
3 Apparatus			
1	Light screen apparatus		1
2	Bell jar (experiments)		1
3	Respiroscope(for aerobic respiration)		1
4	Ganong`s photometer		1
5	Osmoscope(thistle funnel)		1
6	Quadrant	Wooden/metal/p lastic (2.5/2.5) feet	4
4 Permanent Slides			
1	Nostoc Filament		1
2	Aspergillum		1
3	Chlorella		1
4	Volvox		1
5	Chara		1
6	Laminaria		1
7	Dictyota		1
8	Polysiphonia		1
9	Marchantia- with Anthredia		1
10	Marchantia- with Archegonia		1
11	Pollen germination on stigma		1
12	T.S. of young anther		1
13	Dicot stomata		1
14	Monocot stomata		1
15	Mitosis slides – set		1
16	Meiosis I- set		1
17	Meiosis II- set		1
18	Parenchyma		1
19	Collenchyma		1
20	Sclerenchyma		1
21	Lysogenous cavity		1
22	Schizogenous cavity		1
23	TS of Dicot stem		1
24	TS of Dicot Root		1
25	TS of Dicot leaf		1
26	TS of Monocot stem		1
27	TS of Monocot Root		1
28	TS of Monocot leaf		1
29	TS of Hydrilla Stem		1
30	TS of Nerium leaf		1
31	Orthotropous ovule – Eg: polygonum		1
32	Anatropous –Eg: Datura		1
33	Campylotropous ovule –Eg: pea		1
34	Xylem		1
35	Phloem		1
36	Vegetative filaments of spirogyra		1
42	Asexual stage of rhizopus		1
5 Specimens			

1	Taproot system	Sealed container with specimen in formaldehyde	1
2	Adventitious root system	„	1
3	Fibrous root system (eg.Monocot)	Sealed container with specimen in formaldehyde	1
4	Storage roots – carrot		1
5	Epiphytic root – vanda		1
6	Nodular root – groun nut		1
7	Rhizome – ginger		1
8	Corm – Colachasia		1
9	Bulb – onion		1
10	Offset – Pistia		1
11	Stem tendril – Passiflora		1
12	Thorn – Bouganvillea		1
13	Hooks – Artabotrys		1
14	Phylloclade – Opuntia		1
15	Phyllode – Acacia melanoxylon		1
16	Reproductive leaves-Bryophyllum		1
17	Trap leaves - Nepenthes		1
18	Simple umbel – onion		1
19	Simple spadix - colacasia		1
20	Verticillaster – Leucas		1
21	Cyathium – Euphorbia		1
22	Hypanthodium – Ficus		1
23	Berry – tomato		1
24	Hesperidium – Citrus		1
25	Pepo – Cucumis		1
26	Pome – apple		1
27	Drupe – coconut		1
28	Dicot seed – Pea		1
29	Monocot seed – maize		1
30	Hydrophytes-Hydrilla		1
31	Funaria plant with sporophyte		1
32	Cycas corolloid roots		1
33	Cycas – microsporophyll		1
34	Cycas – megasporophyll		1
35	Agaricus		1
36	Marchantia Thallus		1
37	Pteris – plant		1
38	Selaginella		1
39	Equisetum		1
40	Salvinia		1
41	Ginko (part)		1
42	Pisum (pea plant)		1

6 Charts

1	Structure of prokaryotic cell	Bio- visual	1
2	Structure of eukaryotic cell		1
3	Cell cycle		1
4	Mitosis cell division		1
5	Meiosis cell division		1
6	Glycolysis & Krebs cycle		1
7	Lac operon model of a Gene		1
8	Monohybrid and Di-hybrid cross		1

9	Genetic code		1
10	D.N.A structure		1
11	All cell organellae charts		1
12	Parts of a flowering plant		1
13	Root modifications		1
14	Aerial stem modifications		1
15	Sub aerial stem modifications		1
16	Underground stem modifications		1
17	Leaf modifications		1
18	Racemose inflorescences		1
19	Cymose inflorescences		1
20	Spl. Types of inflorescences		1
21	Types of aestivation		1
22	Union of stamens		1
23	Life cycle of typical angiospermic plant		1
24	Position of floral parts on thalamus		1
25	Development of male gametophyte		1
26	Types of ovules		1
27	Development of embryo sac		1
28	Contrivances for cross pollination		1
29	Agents for cross pollination		1
30	Venation		1
31	Phyllotaxy		1
32	Structure of Dicot, and Monocot seed		1
33	All types of germinations		1
34	Types of simple fruits		1
35	Aggregate of multiple fruits		1
36	Fabaceae – Tephrosia		1
37	Solananceae – Datura		1
38	Liliaceae – Allium cepa		1
39	Structure & types of RNA		1
40	Replication of DNA		1
41	Plant – Simple Tissues		1
42	Plant – complex tissues		1
43	Special tissues (plants)		1
44	TS of dicot stem		1
45	TS of dicot root		1
46	TS of dicot leaf		1
47	TS of monocot root		1
48	TS of monocot stem		1
49	TS of monocot leaf		1
50	C3 cycle		1
51	C4 cycle		1
52	Photosynthesis – light phase		1
53	Recombinant DNA (r-DNA) technology		1
54	Plant Tissue culture technique		1
55	Bio-synthesis of proteins		1
7	Models		
1	Plant cell		1
2	Mitosis / meiosis model		1
3	L.S. of a flower		1
4	Structure of a ovule		1
5	Structure of a embryo sac		1
6	DNA model		1
7	Replication of DNA		1
8	Structure of Chromosome		1
8	Chemicals (Consumables)		

1	Formaldehyde (Solution)		1 litre
2	Chloroform		500 ml
3	Glycerine		500 ml
4	Glacial acetic acid		500 ml
5	70% Ethanol		500 ml
6	Calcium Nitrite-Ca(NO ₃) ₂		200 g -1 pkt.
7	Boric acid-H ₂ BO ₃		200 g-1 pkt.
8	Alcohol (redefined spirit)		100 ml
9	HCL		250 ml
10	Acetocarmine		100 ml
11	Cobalt chloride		100 ml
12	Petroleum ether		500 ml
13	Acetone		500 ml
14	Saffranine stain		100 ml
15	Iodine solution		100ml
16	KOH pellets		100 gms

ZOOLOGY

**Equipment/articles and other materials required to conduct the
Zoology practicals or for demonstration from class 8th to
Intermediate**

Sl.No.	Name of the Item	No. of Items
1	Compound microscope	6
2	Dissection microscopes	4
3	Dissection trays with wax Size: 25cms*20cms*5cms	5
4	Dissection boards Size: 20cms*10cms Made of soft wood and with light weight	5
5	Dissection boxes	2
6	Bone Cutters	2
7	Hammers with nail pulling device	2
8	Big forceps (30cms)	2
9	Hand magnifying lenses (10 cms)	5
10	Test tube stands (plastic)	20
11	Test tube holders	20
12	Test tube washing brushes	10
13	Spirit lamps	10
14	Blank slides	100
15	Slide (prepared) holding box	2
16	Insect cage with iron mesh	1
17	Spatula	10
18	Plastic water bowls (small size)	20
19	Nails 2 inches in grams	500
20	Alpins in packets	10
21	Soaps	6
22	Dettol in lit	1
23	Napkins	6
24	Wash basins	4
25	Buckets	2
26	Mugs	2
27	Plastic troughs or plastic tubs for waste material	2
GLASS WARE (BOROSIL MADE)		
1	Beakers (400ml)	10
2	Beakers (250ml)	10
3	Test tubes (20ml)	200
4	Droppers	10
5	Measuring jars (25ml)	6
6	Water bath set	1
7	Pipets (5ml)	4
8	Glass rods	6
S.No.	CHEMICALS	
1	Starch powder (soluble) in gms.	500
2	Dextrose (Glucose) in gms.	500
3	Benedicts reagent in ml	500

4	Iodine solution in ml	200
5	Nesslerers reagent in ml	500
6	Conc. Nitric acid in ml	200
7	Ammonia Solution in ml	500
8	Albumin in bottles	1
9	Sodium Hydroxide/Potassium Hydroxide in ml	500
10	Sudan III,	500
11	Ethyl alcohol	200
12	Chloroform in ml	500
13	Glycerin in ml	200
14	Ether	200
15	Benzene	500
S.No.	BOTTLE SPECIMENS/ MODEL SPECIMENS	
	Invertebrate specimens	
1	Euspongia (bath sponge)	1
2	Aurelia (jelly fish)	1
3	Metridium (sea anemone)	1
4	Taenia solium (tape worm)	1
5	Male Ascaris (male round worm)	1
6	Female Ascaris (female round worm)	1
7	Nereis (sand worm)	1
8	Hirudinaria (leech)	1
9	Earth worm	1
10	Scolopendra (centipede)	1
11	Julus (Millipede)	1
12	Palaemon (Prawn)	1
13	Aranea (spider)	1
14	Palamnaeus (scorpion)	1
15	Unio (fresh water mussel)	1
16	Silk moth/Silk Worm	1
17	Honey Bee	1
18	Pila (apple snail)	1
19	Asterias (star fish)	1
	Vertebrate Specimens	
1	Shark	1
2	Rohu	1
3	Catla	1
4	Labeo	1
5	Frog	1
6	Sea Sanke	1
7	Naja naja	1
8	Viper	1
9	Pigeon	1
10	Rabbit	1

S.No.	Permanent Slides	
	1. Invertebrate Slides	
1	Amoeba (Whole Mount)	1
2	Euglena (W.M)	1
3	Paramecium (W.M)	1
4	Hydra (W.M)	1
5	Liver Fluke (W.M)	1
	2. Histological Slides	1
1	Squamous epithelium	1
2	Columnar epithelium	1
3	T.S. of cartilage	1
4	T.S. of bone	1
5	Blood smear of mammal	1
6	Striated muscle	1
7	UnStriated muscle	1
	3. Vertebrate Slides of Mammal	
1	T.S. of stomach	1
2	T.S. of intestine	1
3	T.S. of kidney	1
4	T.S. of liver	1
5	T.S. of pancreas	1
6	T.S. of Testis	1
7	T.S. of ovary	1
S.No.	Osteology - Joints	
1	Ball and Socket Joint	1
2	Hing Joint	1
3	Pivotal Joint	1
4	Gliding Joint	1
S.No.	Bio-visual made charts	
1	Pheretima posthuma – External characters	1
2	Pheretima posthuma – Digestive system	1
3	Pheretima posthuma – Nervous system	1
4	Periplanata Americana – External characters	1
5	Periplanata Americana – Mouth parts	1
6	Periplanata Americana – Digestive system	1
7	Periplanata Americana – Nervous system	1
8	Life history of plasmodium vivax	1
9	Life history of Enta moeba histolytica	1
10	Life history of Ascaris lumbricoied	1
11	Life history of Wuchereria banerofite	1
12	Binary fission in Euglena	1
13	Conjugation in paramaeceium	1
14	Electron microscope structure of atypcal animal cell	1
15	Mouth parts of mosquitoes, Housefly, butterfly, cockroach, bedbug, Hand glues.	1
16	Rabbit, Earthworm, cockroach different systems (apart from charts mentioned above)	1

17	Common poisonous snakes of India	1
18	Non-poisonous Snakes of India	1
19	Antigen & Anti body	1
20	Mammalian blood	1
21	Lymphocytes – T cells, B – Cells	1
22	Virus Charts	1
23	HIV Charts	1
24	Disarticulated skeleton of Human	1
25	Articulated Skeleton of Human	1
26	Evidences of Comparative anatomy in chordata	1
27	Evidences of Comparative embryology in chordata	1
28	Human - Digestive system	1
29	Human - Respiratory system	1
30	Human - Circulatory system	1
31	Human - excretory	1
32	Human - nephron structure	1
33	Human - endocrine system	1
34	Human - nervous system	1
35	Human - sensory organs	1
36	Human - Reproductive system (Male)	1
37	Human - reproductive system (F.M)	1
38	Human - skin	1
39	Human - eye	1
40	Human - ear	1
41	Types of Joint	1
42	Human skeleton	1
43	Fore limbs / hind limbs (Human)	1
44	Structure of teeth	1
45	Types of different fibers	1
46	Types of grafting	1
47	Heart internal structures (Man)	1
48	Human - arterial systems	1
49	Human - venous systems	1
50	Human - different stages of human embryo	1
51	Human - Structure of larynx	1
Sl.No.		
	Models	
1	Human bust model (articulated model)	1
2	Human Digestive system	1
3	Human circulatory system	1
4	DNA model	1