

ഭരണഭാഷ-മാതൃഭാഷ

പൊതുവിദ്യാഭ്യാസ വകുപ്പ്
ഡയറക്ടറുടെ കാര്യാലയം
(ഹയർ സെക്കന്ററി വിഭാഗം)
ഹൗസിംഗ് ബോർഡ് ബിൽഡിംഗ്
തിരുവനന്തപുരം

നം. ഫിൻ.സി 5/201311/2022/ഡി.എച്ച്.എസ്.ഇ

തീയതി: 02/07/2022

സർക്കുലർ

വിഷയം : പൊ.വി.വ-ഹ.സെ.വിഭാഗം- സംസ്ഥാനത്തെ ഗവ. ഹയർ സെക്കന്ററി സ്കൂളുകളിലെ ലാബ് നവീകരണം - സംബന്ധിച്ച്

സൂചന : 17/06/2022 തീയതിയിലെ SCERT യുടെ No.P1/2849/2022/SCERT No. ലാബ് സ്പെസിഫിക്കേഷൻ റിപ്പോർട്ട്

സംസ്ഥാനത്തെ ഗവ. ഹയർ സെക്കന്ററി സ്കൂളുകളിലെ ലാബ് സൗകര്യങ്ങൾ ആധുനികവൽക്കരിക്കുന്നതിന് ബഡ്ജറ്റിൽ വകയിരുത്തിയ തുക കാര്യക്ഷമമായി വിനിയോഗിക്കേണ്ടതുണ്ട്. അതിന്റെ ഭാഗമായി SCERT, ഹയർ സെക്കന്ററി വിഭാഗത്തിലെ പ്രാക്ടിക്കൽ വിഷയങ്ങളുമായി ബന്ധപ്പെട്ട ലാബ് സ്പെസിഫിക്കേഷൻ തയ്യാറാക്കി നൽകിയത് സൈറ്റിൽ പ്രസിദ്ധീകരിക്കുന്നു. ഇതു പ്രകാരം ലാബുകളുടെ അപര്യാപ്തത നിലനിൽക്കുന്ന സ്കൂളുകൾ തങ്ങൾക്കാവശ്യമായ ലാബുകളുടേയും ലാബിനായി വിട്ടു നൽകാവുന്ന മുറികളുടെ വിശദാംശങ്ങളും (റൂമുകളുടെ എണ്ണം, നീളം, വീതി തുടങ്ങിയവ) ഉൾക്കൊള്ളിച്ചുകൊണ്ട് ഒരു റിപ്പോർട്ട് തയ്യാറാക്കി അതാത് ആർ.ഡി.ഡി ഓഫീസർമാർക്ക് 15 ജൂലൈ 2022-ന് മുമ്പായി നൽകേണ്ടതാണ്.

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സീനിയർ ഫിനാൻസ് ഓഫീസർ
(പൊതു വിദ്യാഭ്യാസ ഡയറക്ടർക്കുവേണ്ടി)

പകർപ്പ്

1. എല്ലാ സർക്കാർ ഹയർസെക്കന്ററി പ്രിൻസിപ്പൽമാർക്കും
2. കരുതൽ ഫയൽ



STATE COUNCIL OF EDUCATIONAL RESEARCH AND TRAINING

SCERT
Kerala

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SCERT

No. P 1/2849/2022/SCERT

17/06/2022

പ്രേഷകൻ

ഡയറക്ടർ

എസ്.സി.ഇ.ആർ.ടി

സ്വീകർത്താവ്

ജോയിന്റ് ഡയറക്ടർ (അക്കാദമിക് വിഭാഗം)

ഹയർ സെക്കന്ററി ഡയറക്ടറുടെ കാര്യാലയം

ഹൗസിംഗ് ബോർഡ് ബിൽഡിംഗ്,

ശാന്തി നഗർ, തിരുവനന്തപുരം.

സർ,

വിഷയം: ഹയർ സെക്കന്ററി - പ്രാക്ടിക്കൽ വിഷയങ്ങളിലെ ലാബ് വിവരങ്ങൾ - സംബന്ധിച്ച്-

സ്വചന : എ.സി.ഡി/സി.എ.242060/2022/എച്ച്.എസ്.ഇ തീയതി: 25/05/2022

മേൽ സ്വചന പ്രകാരം ഹയർ സെക്കന്ററി പ്രാക്ടിക്കൽ വിഷയങ്ങളിൽ നിലവിലുള്ള ലാബിന്റെ വിസ്തീർണം, ലാബ് സാമഗ്രികൾ, ലാബ് ഉപകരണങ്ങൾ എന്നിവയുടെ വിഷയം തിരുവനന്തപുരം ജില്ലയിൽ ആവശ്യപ്പെട്ടിരുന്നു. അതിനായി 2022 ജൂൺ 8, 9 തീയതികളിൽ ലാബ് എസ്.സി.ഇ.ആർ.ടിയിൽ വെച്ച് ഒരു ശില്പശാല നടത്തുകയും ടി വിവരങ്ങൾ ശേഖരിക്കുകയും ചെയ്തിട്ടുണ്ട്. ഹയർ സെക്കന്ററിയിൽ നിലവിൽ പ്രായോഗിക പരീക്ഷയുള്ള വിഷയങ്ങളിലെ ലാബ് വിവരങ്ങൾ ഇതോടൊപ്പം ഉള്ളടക്കം ചെയ്യുന്നു.

Sl.No	Subjects
1.	Physics
2.	Chemistry
3.	Mathematics
4.	Botany
5.	Zoology
6.	Geography
7.	Computer Science

8.	Computer Applications
9.	Accountancy with Computer Accounting
10.	Communicative English
11.	Electronics
12.	Home Science
13.	Geology
14.	Psychology
15.	Social Work
16.	Statistics
17.	Music
18.	Gandhian Studies
19.	Journalism

വിശ്വസ്തതയോടെ



ഡയറക്ടർ

SCERT KERALA
LAB SPECIFICATIONS
Name of the Subject : PHYSICS

(For a batch of 50 students)

INFRASTRUCTURE

Room Size – 40 X 20 in feet

Tools and Equipment				
Sl. No	Name	Specification	Quantity	price
1	Vernier callipers	Stainless steel	50	
2	Screw gauge	Stainless steel	50	
3	Spherometer	Stainless steel	50	
4	Parallelogram law apparatus	Table top	20	
5	Inclined plane		20	
6	Helical spring apparatus		20	
7	Wooden scale for Moment bar		20	
8	Searle's Apparatus for Young's modulus		20	
9	Long glass tube for viscosity		20	
10	Capillary tube		20	
11	Calorimeter		20	
12	Simple pendulum stand		20	
13	Resonance column Apparatus		20	
14	Sonometer		20	
15	Pendulum bob -brass	2 cm diameter	4	
16	Pendulum bob -iron	2 cm diameter	4	
17	Pendulum bob -steel	2 cm diameter	4	
18	Pendulum bob -brass	1 cm diameter	4	
19	Pendulum bob -iron	1 cm diameter	4	
20	Pendulum bob -brass	1 cm diameter	4	
21	Rectangular body		20	
22	Cylindrical body		20	
23	Glass plate		20	
24	Lead shot		1 Packet	
25	Slotted weight hanger set	20 mg	20	
26	Weight box		20	
27	Stop watch		20	
28	Capillary tube set		20	
29	Rubber cork with single hole		20	
30	Rubber cork (Split)			
31	Travelling microscope		20	
32	Thermometer		20	

33	Thread		1 roll	
34	Stop clock		20	
35	Tuning forks	510,480,420 Hz	13 each	
36	Slotted weight set	0.5 kg	13 each	
37	Ammeter	0-3 A	20	
38	Milli ammeter	0- 500 mA	20	
39	Micro ammeter	0-200 microA	20	
40	Voltmeter	0- 5 V	20	
41	Rheostat	100 Ohm	20	
42	Switch		20	
43	Connecting wires		1 roll	
44	Power source/ Eliminator	0-5 V	20	
45	Nichrome wire		1 roll	
46	Meterbridge		20	
47	Potentiometer		20	
48	Resistance box		20	
49	Resistance box		20	
50	Resistance box		20	
51	One way key		20	
52	Two way key		20	
53	Lechlanche cell		20	
54	Daniel cell		20	
55	Galvanometer		20	
56	Step down transformer	3-0-3 V	20	
57	Convex lens	10 cm	20	
58	Convex lens	20 cm	20	
59	Concave lens	20 cm	20	
60	Concave mirror	15 cm	20	
61	Convex mirror	15 cm	20	
62	Lens holder		20	
63	Light source(Lamp box)		20	
64	Screen		20	
65	Prism (equilateral)- flint	50 mm	50	
66	Prism (equilateral)- crown	50 mm	50	
67	Plane mirror	5 X 5 cm	20	
68	Liquid lens apparatus		20	
69	Diode		20	
70	Zener diode		20	
71	Digital Logic gates :AND OR NOT		20	
72	Digital Logic gates :AND OR NOT		20	
73	Digital Logic gates :AND OR NOT		20	
74	Optical bench		20	
75	Sharp edged needle		20	
76	Uprights with clamps		20	

77	Index needle		20	
78	Spirit level		20	
79	Physical balance		20	

2. Materials and Consumables

1	Ammonium Chloride	99% purity	500 ml	
2	Sulphuric acid	99% purity	500 ml	
3	Ammonium Chloride	99% purity	500 g	
4	Copper Sulphate	99% purity	500 g	
5	Sand Paper		1 Packet	
6	Castor oil	99% purity	500 ml	

3. Furniture

1	Stools	Wooden/steel	50	
2	Tables	3 X 2 in feet	18	
3	Teacher Table with armed Chair	40 X 28 in inch	1 Packet	
4	Almirah	80 X 36 X 16 in inch	1	
5	White board	8 X 4 in feet	1	



Director



SCERT KERALA

LAB SPECIFICATIONS

Name of the Subject : BOTANY

(For a batch of 50 students)

Room: 40x20 feet- 1

1. Tools and Equipments

Sl. No.	Name of tools and equipments	Specification	Quantity	Rate
1	Compound microscope	Ocular lenses 10x & 15x	50	
		Objective lenses 10x & 40x		
		Pointer eye piece (15x	5	
2	Dissection microscope	Ocular lenses 10x & 15x	50	
Sl. No.	Name of materials and consumables	Specification	Quantity	Rate
1	Test tube	15mm X 125mm	100	
2	Test tube rack	Metal	25	
3	Test tube holder		50	
4	Test tube brush		50	
5	Beaker	250 ml Borosil Glass	5	
6	Cotton	Bundle	10	
7	Glass slide	Packet	20	
8	Cover slip	Packet	50	
9	Measuring cylinder	50 ml	5	
10	Spirit lamp		10	
11	Dropping bottle		50	
12	Brush with wooden handle		100	
13	Needle		100	
14	Forceps		50	
15	Watch glass		100	
16	Petri dish		100	
17	Staining rack wooden		15	
18	Scissors		10	
19	Permanent Slide box	Wooden	2	
20	Filler		10	
21	Waste box		3	
22	Wash bottle	500ml	50	
23	Hand wash lotions, Detergents	1000ml	10	
24	Towels		50	
25	Tray	Wooden/ Metal	10	
26	Stain bottle		3	

27	Glass rod		3	
28	Conical flask	500ml	5	
29	Cavity block		15	
30	Mortar and pestle	Ceramic	5	
31	Dropper		25	
32	Clips		5	
33	Burette Stand	Wooden/ Metal	4	
34	Slit Rubber cork		5	
35	Ganong's potometer	Borosilicate	1	
36	Thistle Funnel	Borosilicate	1	
37	Acetocarmine	100ml	1	
38	Hydrochloric acid	500ml	1	
39	Acetone	500ml	1	
40	Sodium hydroxide	500ml	1	
41	FAA	500ml	1	
42	Safranine	100ml	2	
43	Formaline	500ml	1	
44	Glycerine	500ml	1	
45	Carnoy's fluid	100ml	1	
46	Petroleum ether	100ml	1	
47	Methylene blue stain	100ml	1	
48	Yeast	Packet	1	
49	Ethanol	100ml	1	
50	Permanent Slide			
	Prophase		1	
	Metaphase		1	
	Anaphase		1	
	Telophase		1	
	Oscillatoria		1	
	Nostoc		1	
	Rhizopus		1	
	Spirogyra		1	
	Nephrolepis prothallus		1	
	Lactobacillus		1	
	Parenchyma		1	
	Collenchyma		1	
	Sclerenchyma		1	
51	Chart			
	Monocot root		1	
	Dicot root		1	
	Monocot stem		1	
	Dicot stem		1	
	Isobilateral leaf		1	
	Dorsi ventral leaf		1	
	Secondary growth in dicotstem		1	
52	Specimen			

	Funaria gametophyte with sporophyte		1	
	Pinus male cone		1	
	Pinus female cone		1	
	Rhizome- Ginger		1	
	Runner- Hydrocotyl		1	
	Tuber- Potato		1	
	Offset- Pistia/ Water hyacinth		1	
	Bulb- Onion		1	
	Agaricus		1	
	Lichen		1	
	Cuscuta		1	
	Loranthus		1	
	Vanda/ Orchid		1	
53	Specimen jar		15	
54	Photograph			
	Bt-Cotton		1	
	Cloning vector		1	
	Bioreactor		1	
55	Wash basin- Ceramic	55 X 44 X 15 cm	2	

4. Furniture

Sl. No.	Name of furniture	Speciflication	Quantity	Rate
1	Table (Storage space for microscope on lowerside)	83 X 31.5 inch (1m Height)	15	
2	Stool	60cm Height	60	
3	Teacher's Table	40 X 28 inch	1	
4	Office Chair		1	
5	Almirah	80 X 36 X 16 inch	2	
6	Exhaust Fan		4	
7	Ceiling fan		5	
8	Tube light		10	



Director



SCERT KERALA
LAB SPECIFICATIONS
Name of the Subject : CHEMISTRY

(For a batch of 50 students)

1. TOOLS AND EQUIPMENTS

Sl.No.	Name of the Equipment	Specifications	Quantity
1.	Gas cylinder with LPG	Domestic gas cylinder	1
2.	Pipe connectors with regulator	Metal galvanized pipe coated with red enamel having standard bore size connecting each workbench throughout the lab maintained at safety height or concealed in benches.	As per the lab dimensions
3.	Bunsen burner	High quality copper burner having regulator with metal base	14
4.	Exhaust fan	Standard Size	2

2. MATERIALS AND CONSUMABLES

Sl.No.	Name of the Equipment	Specifications	Quantity
1	Acetaldehyde	Minimum 99% purity	500 mL
2	Acetic acid	Minimum 99% purity	500 mL × 2
3	Acetic anhydride	Minimum 99% purity	100 g
4	Acetone	Minimum 99% purity	500 mL
5	Aluminium chloride	Minimum 99% purity	500 g
6	Aluminium nitrate	Minimum 99% purity	500 g
7	Aluminium sulphate	Minimum 99% purity	500 g
8	Ammonium acetate	Minimum 99% purity	500 g
9	Ammonium carbonate	Minimum 99% purity	500 g × 2
10	Ammonium chloride	Minimum 99% purity	500 g × 3
11	Ammonia (Liquid)	Minimum 99% purity	500 mL × 3
12	Ammonium nitrate	Minimum 99% purity	500 g

13	Ammonium oxalate	Minimum 99% purity	500 g
14	Ammonium sulphate	Minimum 99% purity	500 g
15	Aniline	Minimum 99% purity	500 mL
16	Barium chloride	Minimum 99% purity	500 g
17	Barium nitrate	Minimum 99% purity	500 g
18	Benzaldehyde	Minimum 99% purity	500 mL
19	Benzoic acid	Minimum 99% purity	500 g
20	Beta naphthol	Minimum 99% purity	500 g
21	Bersche's reagent	Minimum 99% purity	125mL x 3
22	Bromine Liquid	Minimum 99% purity	20 mL x 2
23	Calcium chloride	Minimum 99% purity	500 g
24	Calcium nitrate	Minimum 99% purity	500 g
25	Carbon tetrachloride	Minimum 99% purity	500 mL
26	Chloroform	Minimum 99% purity	500 mL
27	Cobalt chloride	Minimum 99% purity	250 g
28	Cobalt nitrate	Minimum 99% purity	250 g
29	Copper sulphate	Minimum 99% purity	500 g
30	Disodium hydrogen phosphate	Minimum 99% purity	500 g
31	Distilled water	Minimum 99% purity	1 L
32	Ethanoic acid	Minimum 99% purity	500 mL
33	Ethanol	Minimum 99% purity	500 mL
34	Ether	Minimum 99% purity	500 mL
35	Ethyl acetate	Minimum 99% purity	500 mL
36	Fehling solution A and B	Minimum 99% purity	125 mL
37	Ferric chloride	Minimum 99% purity	500 g
38	Ferrous ammonium sulphate	Minimum 99% purity	500 g
39	Ferrous sulphate	Minimum 99% purity	500 g
40	Glucose	Minimum 99% purity	500 g

41	Hydrochloric acid (Conc)	Minimum 99% purity	500 mL× 5
42	Hydrogen peroxide	Minimum 99% purity	100 mL
43	Lead acetate	Minimum 99% purity	500 g
44	Lead nitrate	Minimum 99% purity	500 g
45	Liquid paraffin	Minimum 99% purity	500 mL
46	Magnesium chloride	Minimum 99% purity	500 g
47	Magnesium nitrate	Minimum 99% purity	500 g
48	Magnesium sulphate	Minimum 99% purity	500 g
49	Magneson reagent	Minimum 99% purity	500 g
50	Manganese chloride	Minimum 99% purity	500 g
51	Manganese dioxide	Minimum 99% purity	500 g
52	Manganese nitrate	Minimum 99% purity	500 g
53	Metallic sodium	Minimum 99% purity	500 g
54	Methyl orange	Minimum 99% purity	125 mL x 3
55	Naphthalene	Minimum 99% purity	500 g
56	Nessler's reagent	Minimum 99% purity	125 mL x3
57	Ninhydrin	Minimum 99% purity	500 g
58	Nitric acid (conc)	Minimum 99% purity	500 mL× 5
59	Oxalic acid	Minimum 99% purity	500 g
60	Phenol	Minimum 99% purity	500 mL
61	Phenolphthalein	Minimum 99% purity	125 mL x 3
62	Potassium chromate	Minimum 99% purity	500 g
63	Potassium dichromate	Minimum 99% purity	500 g
64	Potassium hydroxide	Minimum 99% purity	500 g
65	Potassium iodate	Minimum 99% purity	250 g
66	Potassium iodide	Minimum 99% purity	100 g
67	Potassium nitrate	Minimum 99% purity	500 g
68	Potassium permanganate	Minimum 99% purity	500 g

69	Potassium thiocyanate	Minimum 99% purity	500 g
70	Silver nitrate	Minimum 99% purity	100 g
71	Sodium carbonate	Minimum 99% purity	500 g x 2
72	Sodium ethanoate	Minimum 99% purity	500 g
73	Sodium hydrogen carbonate	Minimum 99% purity	500 g
74	Sodium hydroxide	Minimum 99% purity	500 g x 2
75	Sodium nitrite	Minimum 99% purity	500 g
76	Sodium sulphide	Minimum 99% purity	500 g
77	Sodium sulphite	Minimum 99% purity	500 g
78	Sodium thiosulphate	Minimum 99% purity	500 g
79	Starch	Minimum 99% purity	500 g
80	Sulphuric acid (Conc)	Minimum 99% purity	500 mL x 5
81	Universal indicator	Minimum 99% purity	125 mL
82	Zinc chloride	Minimum 99% purity	500 g
83	Zinc nitrate	Minimum 99% purity	500 g
84	Zinc sulphate	Minimum 99% purity	500 g

SL.No.	Name of the Equipment	Specifications	Quantity
1	Air condenser (1 m length)	Glass	1
2	Beaker (250ml)	Borosil Glass	50
3	Beaker (500 ml)	Borosil Glass	5
4	Beaker (1000 ml)	Borosil Glass	1
5	Boiling point apparatus	Borosil Glass	5
6	Boiling tube	Borosil Glass	50
7	Burette (50ml)	Borosil Glass	50
8	Burette stand with Clamp (3 Finger)	Powder coated or Steel	50
9	Calorimeter	Copper	2
10	Capillary tube(50 piece pkt)	Glass	5

11	Ceramic Sink		10
12	Chemical balance	Standard	1
13	China dish	Ceramic clay (3" dia)	10
14	Conical flask (250 ml)	Borosil Glass	50
15	Clay Pipe Triangle		10
16	Delivery tube	Borosil Glass	10
17	Desiccator with cover Knob and Porcelain plate	21 cm diameter	1
18	Dropper	Glass; 20 cm with rubber head	20
19	Electronic weighing balance	4 digit/ weighing 200 g/ 1mg accuracy	1
20	Filter paper sheet		100
21	Fire extinguisher	ABC Powder Type 4 kg	4
22	First aid kit	Standard Set	1
23	Funnel	3" diameter Borosil Glass	50
24	Gas cylinder and regulator		1
25	Gas jar- (5cmx20cm)		2
26	Glass rod	5mm diameter	10
27	Glass tube	5 mm diameter	3
28	Ignition tube (200 piece)		2
29	Kjeldahal's flask	Borosil Glass	1
30	Measuring cylinder (10 ml)	Borosil Glass	2
31	Measuring cylinder (50 ml)	Borosil Glass	2
32	Measuring cylinder (100 ml)	Borosil Glass	2
33	Measuring cylinder (500 ml)	Borosil Glass	2
34	Measuring cylinder (1000 ml)	Borosil Glass	1
35	Melting point Apparatus	400 oC readable; 3 measurements	5
36	Mortar and pestle		2

37	pH chart		2
38	Pipette (20ml)	Borosil Glass	50
39	Digital Voltmeter		1
40	Reagent bottle (50 ml)	Glass	50
41	Reagent bottle (125 ml)	Glass	50
42	Reagent bottle (250ml)	Glass	100
43	Round bottomed flask	250 mL Borosil Glass	10
44	Rubber corks	1 holed	25
45	Rubber Bulb (for Pipetting)	Medium Size	100
46	Separating funnel	250 mL Borosil Glass	2
47	Side shelf for Reagents	Wooden (6 Racks) (1 m x 1.5 m) [WxH]	4
48	Spatula	Metal	50
49	Stand with clamp (2 Finger)	Powder coated or Steel	10
50	Standard flask (100 ml)	Borosil Glass	50
51	Stop watch	Digital/ Analogue	2
52	Tap (swan neck)	Metal (Steel)	10
53	Test tube	Borosil Glass	500
54	Test tube holder	Metal with wooden Holder	50
55	Test tube stand	Plastic	50
56	Thermometer 110°C	0.1 degree divisions	10
57	Tripod Stand	Metal	10
58	Wash bottle (polythene)	250 mL Plastic	50
59	Watch glass	Borosil Glass	50
60	Water bath	Medium Size	2
61	Liebig's condenser (24/ 29)	Borosil Glass	2
62	Distillation Head (24/ 29)	Borosil Glass	2
63	Vacuum Bend Adapter (24/29)	Borosil Glass	2

64	Weighing bottle	Glass	50
65	Whatman's 41 filter paper	50 x 50 Sheet	5
66	White glazed tiles	15 x 15 ceramic	50
67	Wire gauze	15 x 15 cm	100
68	Workbench with reagent rack – 4 students/ table	Table dimension (H x L x W) 1m x 1.5m x 1.2m; Reagent Rack (W x L) 30 cm x 45 cm (2 per table) with wash basin at the middle	13

3. FURNITURE

Sl.No.	Name of the Equipment	Specifications	Quantity
1.	Teacher Table with armed chair (Wooden)	[LxW] 40 x 28 inch	1
2.	Almirah (Wooden)	80 x 36 x 16 inch	1
3.	Wooden/ Concrete rack [4 shelves] for keeping reagent bottles (inside store room if available)	80 x 36 x 16 inch	1
4.	Wooden Stool	30 x 30cm seat 65cm height	10



Director



SCERT KERALA
LAB SPECIFICATIONS
Name of the Subject : MATHS

(For a batch of 50 students)

* Class room Dimension 20 x 40 Sq.feet

I) Tools and Equipments

Sl No.	Name	Specifications	Quantity	Price
1	Desktop/ Laptops	1. Core i3/ Ryzen 3 (above)	25	
		2. RAM: 2 GB or above		
		3. Hard disk: HDD \ SSD: 128 GB or above		
		4. Display: 14 inch		
2	Projector	Standard	1	
3	Internet connectivity		1	
4	Public addressing system	Base model	1	
5	USB		1	
6	External Hard disc		1	

II) Materials and consumables

Sl No.	Name	Specifications	Quantity	Price
1	Printer		1	
2	White board	4 x 6 Sq. Feet, related accessories	1	
3	Extension code	With 5 power points	4	

III) Softwares

Sl No.	Name	Specifications	Quantity	Price
1	Geogebra	GeoGebra Classic 5.0.526.0-d (Java 1.8.0_191-64bit, 910MB, CAS Initializing) 22 February 2019		
2	Libre calc	Latest version		
3	Python	Latest version		

IV) Furnitures				
SI No.	Name	Specifications	Quantity	Price
1	Desk	Normal size, with necessary power points	For 50 students	
2	Chair	Normal size	For 50 students	
3	Alamara	Normal size	1	



Director

SCERT KERALA
LAB SPECIFICATIONS

Name of the Subject : ZOOLOGY

(For a batch of 50 students)

Room: 40x20 feet- 1

1. Tools and Equipments

Sl. No.	Name of tools and equipments	Specification	Quantity	Rate
1	Compound microscope	Ocular lenses 10x & 15x Objective lenses 10x & 40x	50	

2. Materials and consumables

Sl. No.	Name of materials and consumables	Specification	Quantity	Rate
1	Test tube	15mm X 125mm	500	
2	Test tube rack	Metal	150	
3	Test tube holder		100	
4	Test tube brush		50	
5	Beaker	250 ml Borosil Glass	10	
6	Cotton	Bundle	10	
7	Lancet needle		50	
8	Pasteur pipette with rubber bulb	4 inch	5	
9	Pasteur pipette with rubber bulb	8 inch	5	
10	Glass slide	Packet	20	
11	Cover slip	Packet	20	
12	Measuring cylinder	50 ml	5	
13	Spirit lamp		10	
14	Dropping bottle		20	
15	Model of Human Organs			
	Heart		1	
	Lungs		1	
	Kidney		1	
	Brain		1	
	Eye		1	
	Ear		1	
16	Model of Joints			
	Ball & Socket Joint		1	
	Hinge Joint		1	
	Pivot Joint		1	
	Gliding Joint		1	

18	Chart or Photograph of Invertebrate Animal			
	Hydra		1	
	Liver Fluke		1	
	Ascaris		1	
	Leech		1	
	Earthworm		1	
	Prawn		1	
	Silkworm		1	
	Honey bee		1	
	Snail		1	
	Starfish		1	
19	Chart or Photograph of Vertebrate Animal			
	Rohu		1	
	Frog		1	
	Lizard		1	
	Pigeon		1	
	Rabbit		1	
20	Chart			
	Mouth parts of cockroach		1	
	Digestive system of cockroach		1	
	Pedigree analysis symbols		1	
	Analogous and Homologous organs in various animals		1	
	Ascaris		1	
	Entamoeba			
	Plasmodium			
	Ringworm			
24	Permanent slides			
	Striated muscle tissue		1	
	Non-striated muscle tissue		1	
	Cardiac muscle tissue		1	
	Transverse Section of ovary		1	
	Transverse Section of testes		1	
	Transverse Section of blastula		1	
26	Blotting paper			
27	Permanent Slide box	Wooden	1	
28	Filler long tailed		5	
29	Waste box		3	
30	Wash bottle	500ml	10	
31	Hand wash lotions, Detergents	1000ml	10	
32	Towels		50	
33	Tray	Metal/ Wooden	10	
34	Stain bottle		3	
35	Glass rod		3	
36	Fehling's Solution- A	500ml	1	

37	Fehling's Solution- B	500ml	1	
38	Benedict's Reagent	500ml	1	
39	Lugol's Iodine Solution	100ml	1	
40	Sudan- III stain		1	
41	Glucose	Powder	1	
42	Starch	Powder		
43	Sodium hydroxide			
44	Copper sulphate			
45	Conc. Nitric acid	250ml		
46	Ammonia Solution	500ml		
47	Sulphosalicylic Acid			
48	Methylene blue stain	100ml	2	
49	Leishman's wright stain	100ml	2	
50	Ethanol	100ml	2	
51	Wash basin	55 X 44 X 15 cm	2	

3. Software- Nil

4. Furniture

Sl. No.	Name of furniture	Specification	Quantity	Rate
1	Table (Storage space for microscope on lower side)	83 X 31.5 inch (1m Height)	15	
2	Stool	60cm Height	60	
3	Teacher's Table	40 X 28 inch	1	
4	Office Chair		1	
5	Almirah	80 X 36 X 16 inch	2	
6	Exhaust Fan		4	
7	Ceiling fan		5	
8	Tube light		10	



Director



SCERT KERALA

LAB SPECIFICATIONS

Name of the Subject : GEOGRAPHY

(For a batch of 50 students)

1. Area of the Lab: 20:40

2. Tools and Equipments

Sl.No	Name of the Equipment	Specification	Quantity	Price
1	Toposheets	Toposheets with the scale of 1:50,000 (Authorised by the Govt of India)	60	
2	World Map - Physical	Wall Map (Authorised by the Govt of India)	1	
3	World Map -Political	Wall Map (Authorised by the Govt of India)	1	
4	World Map- Time Zones	Wall Map (Authorised by the Govt of India)	1	
5	India- Physical	Wall Map (Authorised by the Govt of India)	1	
6	India- Political	Wall Map (Authorised by the Govt of India)	1	
7	School Atlas	School Atlas	5	
8	Tracing Table	Tracing Table which is broader enough to trace a toposheet of 1:50000 or LED lighted tracing board	2	
9	Rota Meter	Simple rota meter for measuring distance on Map	5	
10	Planimeter	Planimeter	1	
11	Transparent Globe with light	Transparent Globe with light	1	
12	Magnetic Compass	Magnetic Compass	10	
13	Globe	Globe- Political	1	
14	Satellite Imageries (hard copies and soft copies)	Satellite Imageries -Hard Copies (Liss III Images) Soft copies are available from Bhuvan	20	
15	Aerial Photos (Stereo Pairs)	Aerial Photos (Stereo Pairs) for educational purpose	30 Sets	

16	Mirror stereo scope	Mirror stereo scope for educational purpose	5	
17	GPS	GPS with the accuracy of 5 meters	2	
18	Metal scale (30 cm)	Metal scale (30 cm)	2	
19	Measuring Tape (20m approx.)	Fibre Glass Measuring Tape (20m approx.)-	5	
20	Tangent Clinometer	Tangent Clinometer	10	
21	Meter Scale	Meter scale	2	
22	Magnifying Lens	Magnifying Lens	20	
23	Weather Charts	Weather Map of India	30	
24	Aneroid Barometer	Aneroid Barometer measuring the atmospheric pressure from 930 millibars to 1060 millibars. Dial type (IMD specified)	1	
25	Maximum and Minimum Thermometer	Zeal Make (as per the specifications given by the IMD)	1	
26	Wet and dry bulb Thermometer	Zeal Make (as per the specifications given by the IMD) Range – 10 to 50 deg C	1	
27	Wind vane	Material of the base- aluminium, material of fin and bearing housing cap- aluminium alloy, material of support tube- aluminium casting, material spindle and cap nut- Brass Material of the Main support and direction and direction letter- Galvanised steel, Material of the balance weight, Direction arm and direction arms for letter-mild steel, Material of bearing brush – Tin bronze	1	
28	Rain gauge with measuring jar	- Rain gauge consisting of an intercepter/ collector for rainwater and receiver consisting of a base and a bottle. The collector, the receiver and the bottle are all made of FRP material. - Measuring Cylinder- Borosilicate Glass Jar	1	

		(As per the specifications given by the IMD)		
29	Cup Counter Anemometer	The instrument indicates the total run of the wind past an observation point in kilometres. The conical beaded- edged cups of copper are attached by arms to a central spider. This drives a vertical spindle at a rotary speed proportional to the linear wind speed. A worm gear on the central spindle drives a mechanical counter with 6 digits. A window for the counter angled downwards. The anemometer has a treading of 14TP (a pipe to install the anemometer in the ground) (as per the specifications given by the IMD)	1	
30	Beaufort scale	The Scale to estimate the wind speed and effects- Normal Chart Size	1	
31	Conversion of Wet and Dry Bulb readings to percentage of relative humidity (Chart)	Conversion Wet and Dry Bulb readings to percentage of relative humidity (Chart) Normal Chart Size	1	
32	Instrument Box for white Board Use	Instrument Box for white Board Use	2	
33	Display Board	Display Board 5*7 m	1	
34	Smart White Board and LCD Projector	Smart interactive white board with LCD projector	1	
35	Laptops	Laptop-i5,8GB RAM,256 SSD	30	
36	Scanner with Printer (A3 Printer)	Scanner with Printer (A3 Printer)	1	
37	Clock	1. Wall Clock for showing the time based on ISD 2. Wall Clock for showing time based on GMT	2	
38	USB Pen drive	USB Pen drive (64 GB)	1	
39	Thermometer	25 long -10 to 300 deg C	1	

40	Ranging Rod	Instrument used for marking the position of stations. (Made of well-seasoned wood)	5	
41	Binocular	Binocular water proof 60*60	1	

3. Materials and Consumables

Sl.No	Name of Materials and consumables	Specification	Quantity	
1	Tracing Papers	Tracing papers	20 or Quantity as per the requirement	
2	A4 Sheets	A 4 sheets	1 Packet or Quantity as per the requirement	
3	Graph Papers	Graph papers – A4 size	100 or Quantity as per the requirement	
4	Sketch Pens, Colour Pencils, Pencils, Eraser		Quantity as per the requirement	
5	A3 sheets	A3 Sheets	1 Packet or Quantity as per the requirement	

4. Software

Sl.No	Name of the Software	Specification	Quantity	
1	GIS Software	Free-open source software	1	
2	Libre Office	Free-open source software	1	

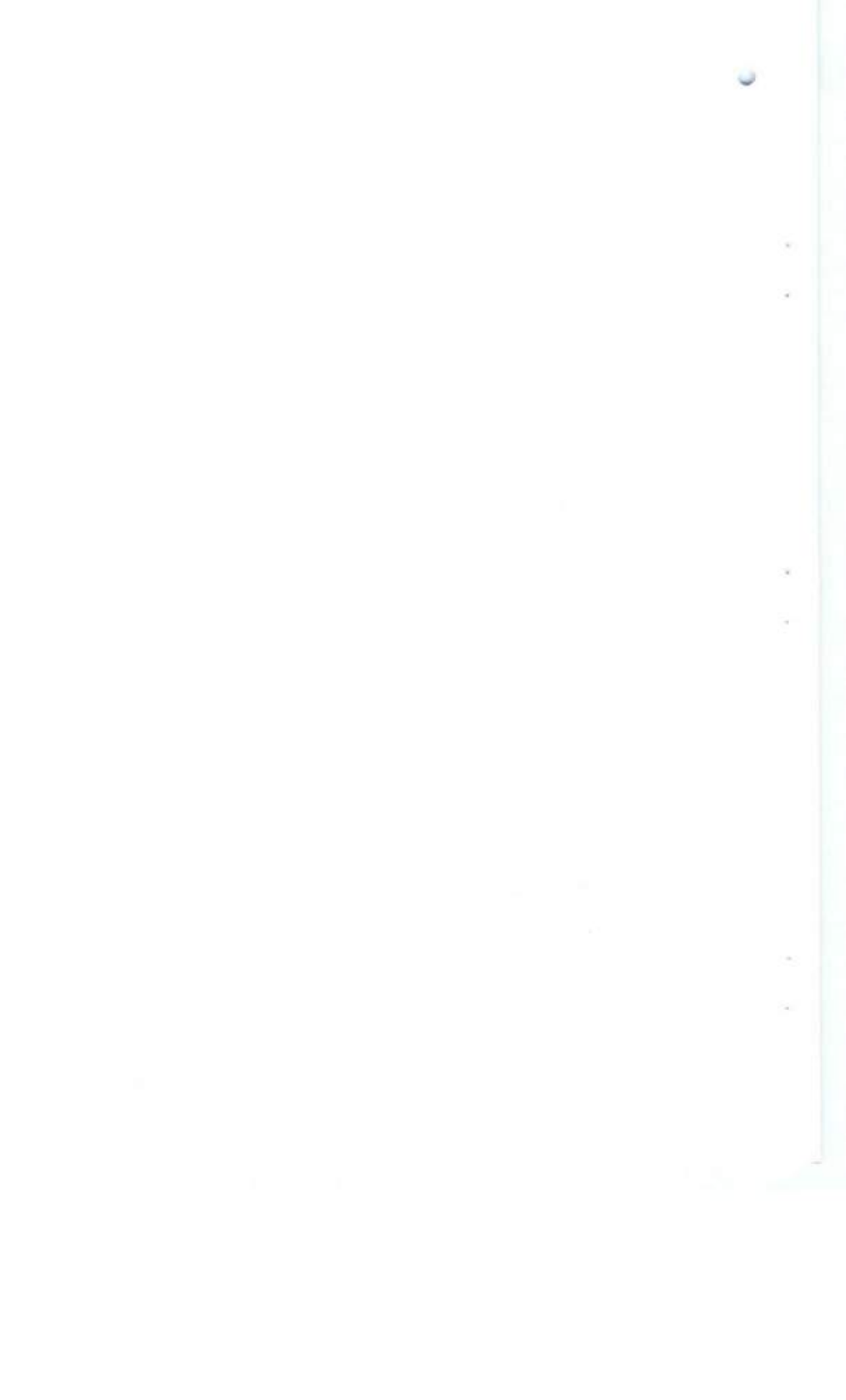
5. Furniture

Sl.No	Name of Furniture	Specification	Quantity	
1	Almira	Steel Almira	2	
2	Map Tracks	Map Tracks	2	
3	Toposheet Shelves	Toposheet Shelves	1	
4	Table	1 meter height 1 meter breadth 1.5 meter length	25	

5	Chairs	Normal chairs for students and teacher	51	
6	Teacher's Table	Normal Table	1	



Director



SCERT KERALA
LAB SPECIFICATIONS

Name of the Subject : ACCOUNTANCY WITH COMPUTERIZED ACCOUNTING

(For a batch of 50 students)

1. Room 40 x 20 feet - 1

2. Tools and Equipments

Sl No	Name	Specification	Quantity (in numbers)	Price
1	Desk top / Lap top	With Normal Display Monitor & 8 GB RAM	25	
2	UPS	5 KVA	1	
3	Multi Option Printer (Printer, Scanner and Photocopier)	A3 Size	2	
4	Interactive Board		1	
5	Network connectivity		1	
6	Public Addressing system		1	
7	LED Projector		1	
8	Lecture stand with mike		1	

3. Software (FOSS)

Sl No	Name	Specification	Quantity	Price
1	GNU Khata	Version 4.25		
2	LibreOffice	Latest updates		

4. Furniture

Sl No	Name	Specification	Quantity	Price
1	Computer Table	Standard size	25	
2	Computer Chair	Standard size	50	
3	Almarah		1	


Director



SCERT KERALA

LAB SPECIFICATIONS

Name of the Subjects : COMPUTER SCIENCE,
COMPUTER APPLICATION (COMMERCE) &
COMPUTER APPLICATION (HUMANITIES)
(For a batch of 50 students)

1. Tools and equipment				
Sl. No.	Particulars	Specification	Quantity	Unit Price
1	Desk Top Computers	Intel i3, 2 nd Gen/Athlon, 4GB RAM, 500 GB HDD, 18.5" or below display, Keyboard, Mouse	20	
2	Lap Tops	Intel i3 5 Gen/Athlon, 4 GB RAM, 1 TB HDD, 15.4" LED display	10	
3	Router	WiFi	1	
4	Switch	100/1000 mbps	1	
5	Network cable	Not fully connected		
6	Printer			
7	UPS	3 KVA	1	
8	Battery			
2. Materials and Consumables				
1	Paper			
2	Toner			
3	Battery Water			
3. Software				
1	Operating System	KITE Ubuntu Linux		
2	Office Suite	LibreOffice		
3	Accounting Package	GNU Khata		
4	Program Editor	Geany		
5	RDBMS	MySQL		
6	Browser	Mozilla Firefox, Google Chrome		

4. Furniture				
1	Computer Desk/Table			
2	Chairs	Armless Plastic/Wooden	50	
3	Metal Rack	To place Router and Switch		
4	Wooden Rack	To place UPS and Batteries		



Director

SCERT KERALA
LAB SPECIFICATIONS

Name of the Subject : COMMUNICATIVE ENGLISH
(For a batch of 50 students)

Tools and Equipment

Sl. No	Name	Specifications	Quantity
1	Desktop Computer	Ubuntu IT School version 18.04 with 4GB RAM	25
2	Desktop Computer	Ubuntu IT School version 18.04 with 2 TB hard disc and 8GB RAM	1
3	Earphones with Mic		25
4	UPS	5KV	1
5	Home theatre system	7.1 Channels, 70 W	1
6	LCD Projector with Screen and HDMI Cable		1
7	LAN switch and cables for networking	for 51 Computers	

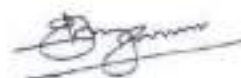
Software

Ubuntu IT School version 18.04

Furniture

Sl.No	Name	Specification	Quantity
1	Computer table with Cabin and Chair		25
2	Shelf		1

* A lab with above specifications can be set up in a room of 20 ft width and 40 ft length



Director



SCERT KERALA
LAB SPECIFICATIONS

Name of the Subject : ELECTRONICS

(For a batch of 50 students)

1) Room 40 X 20 feet – 1

2) Tools and Equipment

Sl. No.	Name	Specification	Quantity	Price
1	C.R.O.(Cathode Ray Oscilloscope)	AC 10 Hz – 30 MHz(3dB)	10	
2	Signal Generator	0.1 Hz – 11 MHz Up/Down Range	5	
3	Voltmeter	0-1 V	25	
		0 – 5 V	25	
		0 – 15 V	25	
4	Ammeter	0 – 100 μ A	25	
		0 – 100 mA	25	
5	Multimeter	Analog	10	
		Digital	20	
6	Rheostat	1k Ω	5	
		200 Ω	5	
7	AC Power Supply	230 V 50 Hz		
8	DC Power Supply	5V 1A	10	
		12V 1A	10	
		0-30V	10	
9	Bread Board		50	
10	Digital Trainer kit		5	

1) Materials and Consumables

Sl. No.	Name	Specification	Quantity	Price
1	Transformer	230 /0 – 6 V, 500 mA	15	
		230 /6-0-6 V, 500 mA	15	
2	Resistors	100 Ω	100	
		1 k Ω , 2.2 k, 10 k, 22 k	100 each	

3	Capacitor	10 μ F, 22 μ F and 100 μ F	50 each	
		1000 μ F	50	
4	Diode	1N 4007	100	
5	Zener Diode	4.7 V/5.6 V	25	
6	Transistor	Bc 107/BC 547	20	
7	IC	74 XX Series	10	
8	Connecting Wires	21 to 26 AWG	20 Meter	
9	Wire stripper		20	

4 Furniture

Sl. No.	Name	Specification	Quantity	Price
1	Table	75cm height, 100 cm length, 60 cm width	10	
2	Stool	72 cm height 45 cm width	50	



Director

SCERT KERALA
LAB SPECIFICATIONS
Name of the Subject : GEOLOGY
(For a batch of 50 students)

TOOLS AND EQUIPMENTS

Sl. No	Name	Specifications	Quantity (numbers)	Price
1	MOH'S SCALE OF HARDNESS (HARDNESS BOX)	9 minerals minimum	3	
2	STREAK PLATE	2" X 2"	25	
3	MAGNIFYING GLASS (HAND LENS) FOLDING	10 x magnification	3	
4	MAGNIFYING GLASS (HAND LENS) WITH HANDLE	Loupe magnifier-30 x21 mm	1	
5	BAR MAGNETS	1.5"	2	
6	HORSE SHOE MAGNETS- (U- MAGNET)	75 mm	2	
7	CLINOMETER COMPASS	Brass body	2	
8	BRUNTON COMPASS	Brass body	1	
9	POCKET STEREOSCOPES	Steel body	2	
10	GLOBE	25 x 17 x16 cms	1	
11	FIBRE TRAYS (FOR ROCK SPECIMENS)	12X 9 cms	30	
12	FIBRE TRAYS FOR MINERAL SPECIMENS	12 X 9 cms	50	
13	FIBRE TRAYS FOR FOSSILS	12 X 9 cms	10	

MATERIALS AND CONSUMABLES

Sl.No	NAME	SPECIFICATIONS	Quantity (numbers)	Price
1	<u>ROCKS</u>	UNPOLISHED		
1	GRANITE	(12X9 cm) Size each	1	
2	GRANITE (PORPHYRITIC) PEGMATITE		1	
3	SYENITE		1	
4	GABBRO		1	
5	DUNITE		1	
6	DIORITE		1	
7	DOLERITE		1	
8	RHYOLITE		1	
9	BASALT		1	
10	PUMICE		1	
11	SCORIA		1	
12	OBSIDIAN		1	
13	SANDSTONE		1	
14	SHALE		1	
15	CONGLOMERATE		1	

16	BRECCIA		1	
17	LIMESTONE		1	
18	LIMESTONE (FOSSILIFEROUS)		1	
19	CORAL LIMESTONE		1	
20	SLATE		1	
21	CHLORITE SCHIST		1	
22	BIOTITE SCHIST		1	
23	GARNET MICA SCHIST		1	
24	PHYLLITE		1	
25	GNEISS		1	
26	CHARNOCKITE		1	
27	KHONDALITE		1	
28	MARBLE		1	
29	QUARTZITE		1	
30			1	
II	<u>ROCK FORMING MINERALS</u>	(5X7 cm Size)	1	
1	QUARTZ- white		1	
2	QUARTZ- smoky		1	
3	ORTHOCLASE		1	
4	PLAGIOCLASE		1	
5	TALC		1	
6	CALCITE		1	
7	FLUORITE		1	
8	GARNET		1	
9	APATITE		1	
10	CORUNDUM		1	
11	BERYL		1	
12	KYANITE		1	
13	AGATE		1	
14	HORNBLENDE		1	
15	BIOTITE MICA		1	
16	TOURMALINE		1	
17	ZIRCON		1	
18	AMETHYST		1	
19	DOLOMITE		1	
20	STAUROLITE		1	
III	<u>ORE MINERALS/ ORES</u>	(5X7 cm Size)		
1	HEMATITE		1	
2	MAGNETITE		1	
3	PYRITE		1	
4	CHALCOPYRITE		1	
5	MALACHITE		1	
6	PYROLUSITE		1	
7	PSILOMELANE		1	
8	CHROMITE		1	
9	SPHALERITE		1	
10	GALENA		1	
11	BAUXITE		1	
12	ILMENITE SAND		1	

IV	INDUSTRIAL MINERALS	(5X7 cm Size)		
1	GYPSUM		1	
2	ASBESTOS		1	
3	GRAPHITE		1	
4	BARYTE		1	
5	MUSCOVITE MICA		1	
6	MAGNESITE		1	
7	CHINA CLAY		1	
8	FIRE CLAY		1	
9	LIGNITE		1	
10	COAL		1	
V	FOSSILS			
1	FOSSIL WOOD		1	
2	GLOSSOPTERIS		1	
3	PTYLOPHYLLUM		1	
4	FOSSIL MOULDS		1	
5	FOSSIL CAST		1	
VI	COLLECTIONS DISPLAYING MINERAL PROPERTIES			
	1. Mineral Cleavage collections	Set of 10 minerals	1 no	
	2. Lustre collections	Set of 10 minerals	1 no	
	3. Fracture collections	Set of 10 minerals	1 no	
	4. Streak collections	Set of 10 minerals	1 no	
VII	MAPS	90X70 cm minimum		
1	GEOLOGICAL MAP OF INDIA		1	
2	MINERAL MAP OF INDIA		1	
3	INDIA- ROCK TYPE MAP		1	
4	PHYSIOGRAPHIC MAP OF INDIA		1	
5	DRAINAGE MAP OF INDIA		1	
6	MAP SHOWING CRUSTAL PLATES		1	
VIII	AERIAL PHOTOGRAPHS	Stereo paired showing 1. landforms, 2. structures and 3. drainages	2 pairs 2 pairs 2 pairs	
IX	SATELLITE IMAGERY- GEOCODED TOPOSHEET	Coloured- 1: 50,000 scale	1	
X	STEREO ATLAS	1. Geological structures 2. Drainage patterns	1 1	
XI	WOODEN/ POLYMER MODELS			
1	Geomorphological models		1	
2	The earth's interior		1	
3	World relief and bathymetry		1	
4	Relief of Kerala		1	
5	Formation of rocks		1	
6	River in action		1	
7	Desert features and aeolian systems		1	
8	Glacial landscapes		1	
9	Folds and faults		1	
10	Plate structure and surface morphology Horst and		1	
11	graben		1	
12	Mass movements on earth		1	
13	Groundwater zones		1	

XII	STRUCTURAL GEOLOGY MODELS			
1	Strike, dip and pitch/plunge- folded strata	22×18×11 cms	1	
2	Strike, dip and escarpment- inclined strata	22×18×11 cms	1	
3	Symmetrical anticline and syncline	20×20×7.5 cms	1	
4	Asymmetrical anticline and syncline Isoclinal anticline	22×18×11 cms	1	
5	and syncline Recumbent fold	20×20×7.5 cm	1	
6	Normal and reverse faults	15×15×11 cms.	1	
7	Unconformity models	15×15×11 cms.	1	
8	Model of sill and dyke	22×11×10 cms.	1	
9	Model of laccolith and batholith	22×18×11 cms	1	
10		22×18×11 cms.	1	
XIII	PHOTOGRAPHS OF EMINENT GEOLOGISTS WITH LIFE HISTORY	Set of 8	1	
XIV	WALL CHARTS			
	1. Rock cycle		1	
	2. Geologic Time Scale		1	
	3. Earth's history		1	
	4. Hydrologic cycle		1	
	5. Volcanoes		1	
	6. Classification of rocks		1	
	7. Drainage patterns		1	

LAYOUT & FURNITURES

A geology laboratory shall have a minimum of 800 square feet (40 ftX20 ft) level for a batch of 50 students.

Sl.No	Name	Specifications	Quantity
1	Laboratory tables	4 ft X 1.5 ft X 3 ft	16
2	Work benches	4 ft X 1 ft x 2 ft	16
3	Multi rack shelves (steel/wood)	4 ft X 1.5 ft	4
4	Map cases	4 ft X 3 ft	2
5	Display tables for minerals	3 ft x 2 ft	3
6	Display tables for rocks	3 ft x 2 ft	3
7	Wooden racks for models	6 ft x 6 ft	6
8.	Steel shelf	4 ft X 2 ft	1
9	Bulletin boards	3 ft x 2 ft	3
10	LCD projector & screen	Resolution 1024 x 768 (XGA) Brightness (Lumens) 3500	1



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SCERT KERALA

LAB SPECIFICATIONS

Name of the Subject : **HOMESCIENCE**

(For a batch of 50 students)

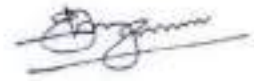
I Room Area : 40×80 sq ft

II

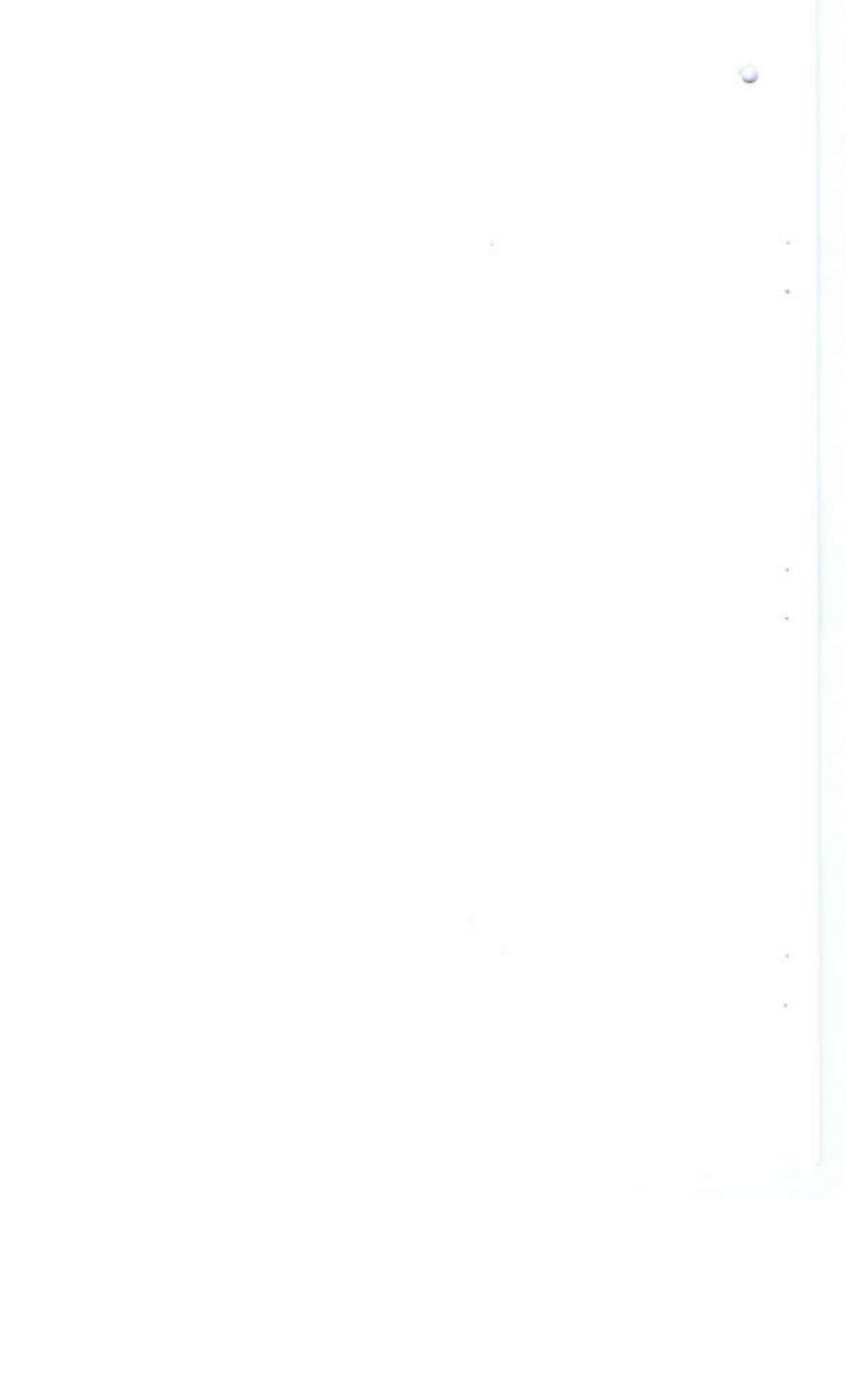
Sl No	Item	Specification	Quantity
I	Tools and Equipments		
1.	Electronic kitchen scale	Weighing 50g to 5kg	3
2.	Measuring cups and spoons	Plastic, set of 4 each	5
3.	Hand Lens	Magnifying glass	10
4.	Gas stove with gas connection	Stainless steel, single burner stove	15
5.	Mixer grinder	750watt with different size bowls	2
6.	Refrigerator with stabiliser	210 litre, single door	1
7.	Gas Lighter		15
8.	Knife	Iron -small	10
		Steel	5
9.	Fire extinguisher	small	2
II	Materials and consumables		
1.	Stainless steel Plate	Medium size- for serving	15
2.	Stainless steel side plate	Medium size	15
3.	Stainless steel Glass		
4.	Stainless steel spoons	Table spoon	15
		Tea spoon	15
		Dessert spoon	15
5.	Ladle	Flat	15
		Deep	15
6.	Stainless steel bowl	Small	15
		Medium	15
7.	Serving cup	Ceramic	15
8.	Serving Bowl	Ceramic -small	15
9.	Kadai	Aluminium- medium size	15
10.	Tawa	Non-stick	15
11.	Cutting Board	Plastic- medium size	15
12.	Plastic Bowl	Small	15
		Medium size	15
14.	Waste Basket	Plastic with lid	10

15.	Storage containers	Steel -500g	10
		Plastic- 500g	5
16.	Pressure Cooker	3 litre	10
17.	Whisk	Steel	5
18.	Strainer	Plastic-medium size	5
19.	Burette	50ml	10
20.	Pipette	10ml	10
21.	Conical Flask	250ml	10
22.	Beaker	250ml	10
23.	Test tubes	20ml	50
24.	Glass Rod		500g
25.	Funnel	Small;	10
26.	Filter Paper		1pkt
27.	Dropper	Medium	10
28.	Standard Flask	100ml	10
29.	Test Tube Stand	Plastic	10
30.	Pipette & Burette Stand	Wooden	10
31.	Water Bath	Laboratory water bath with copper bottom	5
32.	Spatula	Small	10
33.	Bunsen Burner with gas connection	With stop cock	10
	Wire Gauze		
34.	Tripod Stand		10
35.	Measuring cylinder	Cast iron top	10
36.	Beaker	20ml	2
37.	TestTube holder	100ml	10
38.	Glass Beads	With brass holder	10
39.			250g
40.	Molisch's Reagent		250ml
41.	Benedict's Reagent	Qualitative	500ml
		Quantitative	500ml
42.	Barfoed's Reagent		250ml
43.	Seliwanoff's Reagent		250ml
44.	Biuret Reagent		250ml
45.	PottassiumFerrocyanide		250ml
46.	PottassiumThiocyanate		250ml
47.	Sodium Benzoate		1bottle
48.	Sulphuric Acid		1000ml
49.	Nitric Acid		1000ml
50.	Hydrochloric Acid		1000ml
51.	Oxalic Acid		1000ml
52.	2,6dichlorophenolindophenol Dye		5g
53.	Phenylhydrazine hydrochloride		500g
54.	10%sodium Tungstate		250ml
55.	Anhydrous sodium carbonate		250g
56.	Sodium Acetate		250g
57.	Iodine Solution		1bottle

III	Furniture		
1.	Working Units	With tiled working surface	25
		Stainless Steel	7
2.	Washing Sink	Ceramic	5



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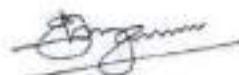
SCERT KERALA
LAB SPECIFICATIONS

Name of the Subject : PSYCHOLOGY

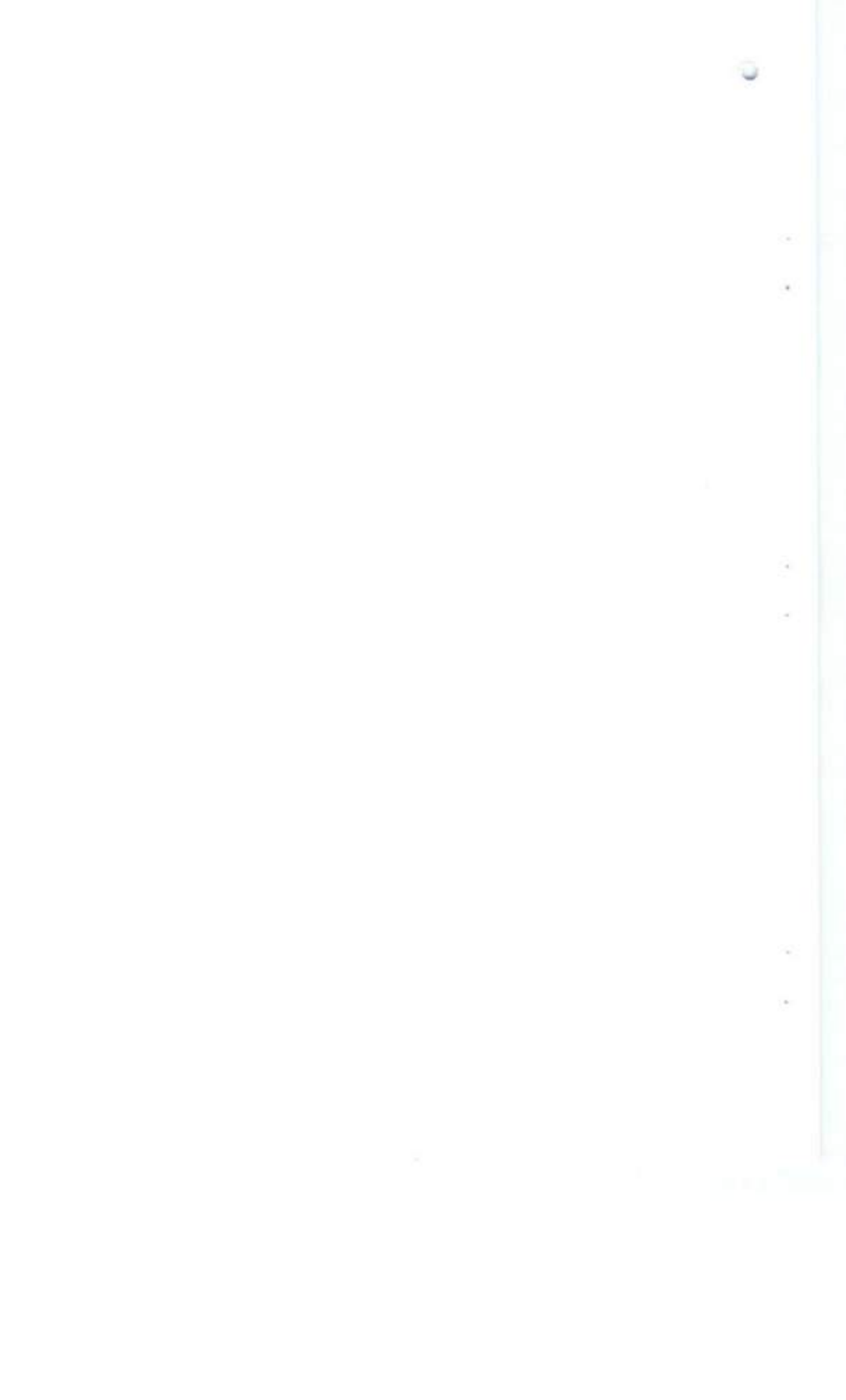
(For a batch of 50 students)

Tools and Materials:

Sl.No.	Name	Specifications	Quantity	Price
1	Letter cancellation test	Response sheet	50	
2	Draw a Man Test	Manual and scoring key	5	
3	Eysenck Personality Inventory	Response sheets, Manual, Scoring key	50 response sheets, 10 manuals, 25 scoring key	
4	IAS Rating Scale	Response sheets, Manual	50 response sheets, 10 manuals	
5	Self Concept Questionnaire	Response sheets, Manual	50 response sheets, 10 manuals	
6	Sinha Comprehensive Anxiety Scale	Response sheets, Manual, Scoring key	50 response sheets, 10 manuals	
7	Bell's Adjustment Inventory	Response sheets, Manual	50 response sheets, 10 manuals	
8	Adjustment Inventory for School Students	Response sheets, Manual	50 response sheets, 10 manuals	



Director



SCERT KERALA
LAB SPECIFICATIONS

Name of the Subject : SOCIAL WORK

(For a batch of 50 students)

A. LAB PHYSICAL INFRASTRUCTURE

1. Room 40*20 Feet]

2. Tools and Equipments

Sl No	Name	Specification	Quantity	Rate
1	Lap top computer	Windows 11 Home Dual core 3020e 256SSD 8GB RAM	5	
2	UPS	5KVA	1	
3	Multy function printer with photo copy		1	
4	LED Projector		1	
5	DSLR Camera		1	
6	Mike and speaker		1	
7	Network connectivity		1	
8	Podium with mike		1	

3. Materials and consumables

SLNo	Name	Specifications	Quantity	Rate
1	Resource map model	PVC-free flex4*6 feet	1	
2	Case record file	A4 size (Folded) Lykam matte 300gsm	50	
3	Activity Log Register	200 page	1	
4	Human brain model	4 part Traversesectionmode Life size 4 part model	1	
5	Flip chart Board with tripped stand	2*3 feet	1	
6	Flip chart	25*30inches	10	
7	Model of problem tree	PVC-free flex 4*6 feet	5	

8	Ink blot card	18*24 cm	10	
9	Field visit Diary(FVD)		50	
10	Photos and pictures	Eminent leaders	10	

4. Software

SLNo	Name	Specification	Quantity	Price
1	SPSS 28			
2	Aptitude Test(DAT)			

5. Furnitures

SLNo	Name	Specification	Quantity	Rate
1	Table	Normal size	1	
2	Executive Chair		1	
3	Normal Chair		1	
4	Jefferson's Chair		50	
5	Almarah		1	

B. Exposure and extension programmes

SLNo	Name	Specification	Quantity	Rate
1	Field visit	Travelling Expenses(50)	5	
		Refreshment(50)		
2	Extension programmes	Travelling Expenses (50)	3	
		Refreshment(50)		



Director

SCERT KERALA
LAB SPECIFICATIONS

Name of the Subject : STATISTICS

(For a batch of 50 students)

1. Tools and Equipments

Sl No	Name	Specifications	Quantity	Price
1	Desktop/Laptop	I3 Processor 4 GB RAM, 500 GB HDD 15" or above monitor Key board, Mouse	25	
2	UPS	3KVA	1	
3	LED Projection		1	
4	White Board/Interactive board		1	
5	Printer		1	

2. Software (FOSS)

Sl No	Name	Specifications	Quantity	Price
1	LibreOffice Calc	LibreOffice 5 or more		
2	LibreOffice Spreadsheet	LibreOffice 5 or more		

3. Furniture

Sl No	Name	Specifications	Quantity	Price
1	Computer table	Standard size	25	
2	Computer Chair	Armless plastic / wooden stools	50	
3	Almirah		1	

4. Building

40 X 20 feet hall - For a batch of 25 students



Director



SCERT KERALA
LAB SPECIFICATIONS
Name of the Subject : MUSIC

(For a batch of 50 students)

1. **Area of Music Lab** : 20-40 feet acoustically designed room (Rockwool may be used on walls for sound proof)

2. Furniture

Sl No	Name	Specification	Quantity in numbers	Price
1	Teacher's Table	Normal size	1	
2	White Board	"	1	
3	Wooden shelf	For keeping musical instruments	1	
4	Wooden Chair	Normal size	1	
5	Wooden platform for students	8-2 feet	16	
6	Computer table	Wooden	1	
7	Notation stand	steel	2	

3. Tools and Equipments

Sl No	Name	Specification	Quantity in numbers	Price
1	Sruti Box	Electronic	2	
2	Hamonium	Double reed	1	
3	Tambura	Manual	1	
4	Laptop/Desktop	8GB RAM with Monitor	1	
5	UPS	5 KVA	1	
6	LED Projector		1	
7	Recording Software	Neundo/Protool/Logic	1	
8	Sound Card		1	
9	Earphone	With code	5	
10	Earphone splitter		1	

11	Extension code	10 Metre	2	
12	Mike system Amplifier	750 Watts	1	
13	Speaker	500 Watts	2	
14	Cube	4 inputs	2	
15	Mixer	8 inputs and 8 outputs	1	
16	Microphones	For Recording	2	
17	Microphones	codeless	2	
18	Microphones	With cable	5	
19	Phono-cable	5 meter long	5	
20	Mike stand	Normal size	5	



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SCERT KERALA

LAB SPECIFICATIONS

Name of the Subject : GANDHIAN STUDIES

(For a batch of 50 students)

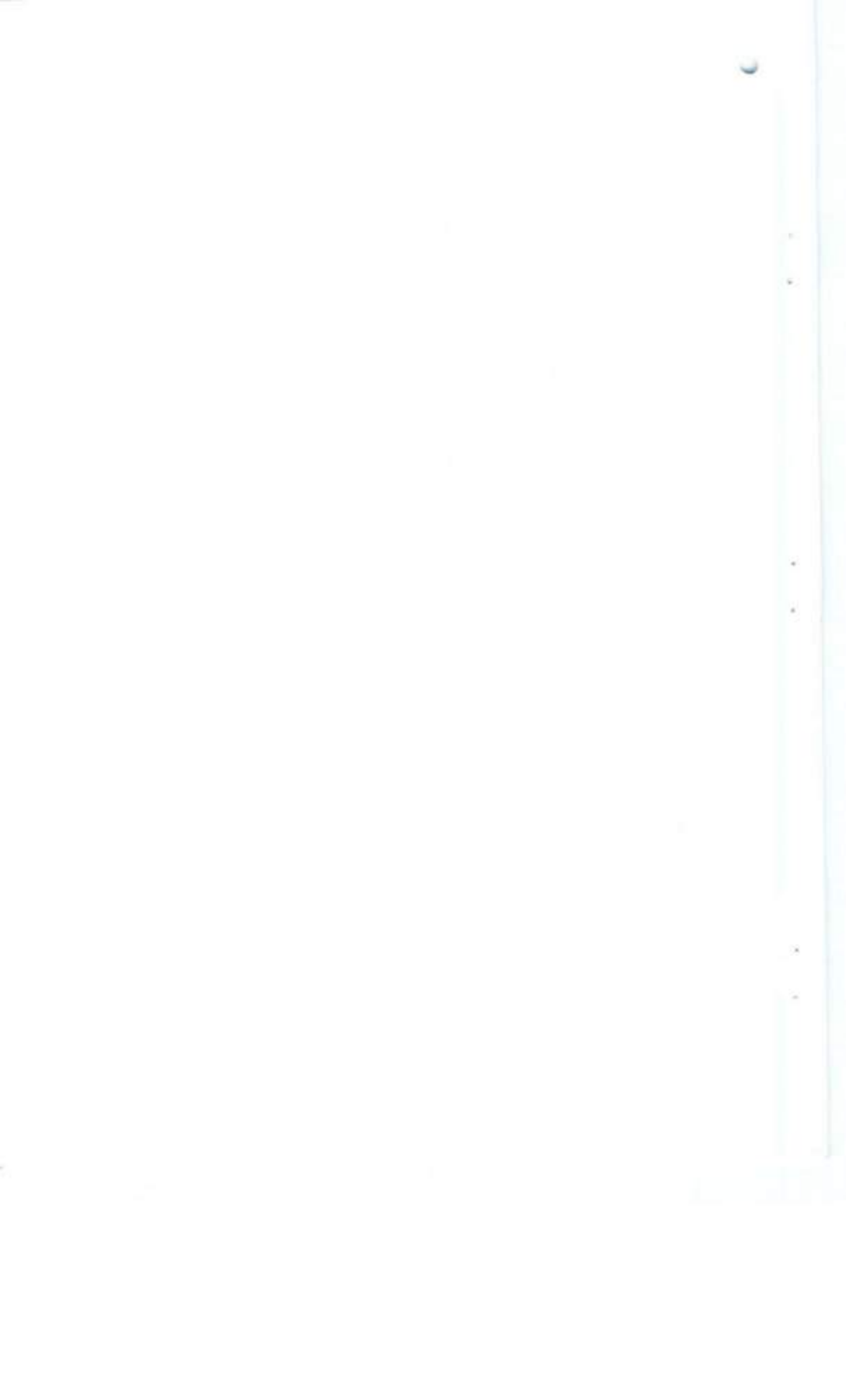
1	Dimensions of lab	Labs are set up in some government and aided schools where rooms are available. Otherwise find the available classrooms or halls and set up the lab. The available size of the lab for 50 students is 40 X 20 square feet
2	Physical infrastructure	Sink and Water tap --- 3x2 ----- 1 Cupboard ----- 4x4 ----- 2 Almirah (steel)- 2 Laptop -1 Desk- 1 ½ X 6 ----- 15 Bench- 1 X 6 ----- 15 Fan-4 Light - 4 White board- 6x4 ----- 1 Table- 3x2 ----- 1 Chair ----- 2 Knife 10 Scissors 10
3	List of equipments	Hammer 2 Basket 5 Hacksaw blade with frame 10 Soap Mould 50 Candle mould 2 Chalk mould 2 Paper Bag Mould 5 Tray steel- 1 ½ x 3 feet 2 Bucket- 15 liters 5 Bucket -5 liters 5 Container- 100 liters 2 Mug 5 Basket plastic 5

		Hammer 3
		Induction stove 1
		Spade- 3
		Pick axe 3
		Embroidery frame 10
		Palettes 10
		Steel Vessels --- 5
		Coconut shell
		Waste cloth
		Plastic bottle for recycled product
		Umbrella assembling kit -5
4	List of materials	White Paper – dummy size 500
		Calico, --- dummy size 100
		Fancy paper , dummy size-100
		Gum- Fevicol – 10 tubes
		Thread, - 1 roll
		Needle-- 20
		Card board---dummy size 100
		Soap kit- 10
		Lotion kit-10
		Paper for file dummy size 500
		Card board for file—dummy size 100
		Cotton cloth – white – 10 meters
		OHP Sheet- 100
		Wax for candle making—5 kit
		Chalk mix --- 5 kit
		Coir ----- 25 rolls
		Agarbathi making kit---5
		Cello tape---10
		Insulation tape--10
		Brush –various types--100
		150- 180 gsm Paper --- 100

		Synthetic gum ---- 20 packets
		Eyelet punch and eyelet---
		Macramé / cotton ropes
5.	List of consumables	Coconut oil -- 10
		Paint box for fabric painting -10 set
		vegetable printing- 10
		pot painting -10
		Vegetables -
		Picture outline-100
		Materials for bio pesticide --
		Soap- washing soap --- 10 bar
		Garlic 1 kg
		Neem Oil – 1 liters



Director



SCERT KERALA

LAB SPECIFICATIONS

Name of the Subject : JOURNALISM

(For a batch of 50 students)

1.	Dimensions of Lab	A lab which can accommodate 50 students at a time will require a space of 40ft X 20ft (divided in to two parts- 30ft X 20ft for shooting floor cum mini theatre and 10ft X 20ft for Production Control Room (PCR) cum Post Production Studio)
2.	Physical Infrastructure	1. Acoustic treatment of the room: (Suggested Acoustic Details-Gyproc Tile 2 X 2 , Ceiling Section (Expert IGL), L angle (Expert IGL), Intermediate Channel, (Expert IGL) joint Tap, Bolt 10 MM , Dry Wall Screw 50 MM (2") Gyproc, Dry Wall Screw 35 mm (1 1/2") Gyproc, Dry wall screw 25 mm Gyproc, PVC Rawl Plug 6 MM, PVC Rawl Plug 7 MM , Double layer polyester Fibre wool 50 mm 1000 GSM, Plain Gypsum , Plywood, Cloth , Fibre Beading, U form) 2. Partition between PCR and studio floor with glass window. 3. Sound proof door for studio floor 4. General electric works 5. Carpet flooring 6. Custom desk in PCR for computers 6. Office executive chairs – 5 nos 7. Plastic chairs- 50 nos 8. Other related furnishing works.
3.	List of equipment	1. Semi-professional mirrorless camera with kit lens suitable for both video production and photography – 5 2. Memory cards for mirrorless camera – 10 3. Mirrorless camera lens 50mm – 1 4. Mirrorless camera lens 35mm – 1 5. Video tripods – 5 6. Dry cabinet-180L (for storage of camera and accessories)- 1 7. Shotgun microphone – for DSLR/Mirrorless Camera & Form wind Screen – 1 8. Wireless dual channel wireless microphone system (two transmitters and one receiver for DSLR/Mirrorless cameras)- 9. Card Reader (SDHC/SDXC UHS-II Card Reader/Write r/USB 3.0/READ SPEED UP TP 500MB/s)- 2 10. Studio quality microphone for podcast applications and audio production - 1 11. Digital sound card and mixer – 1 12. Recording quality XLR cable – 1

		13. Soft/cool LED video lights (with roof mount)- 4
		14. High desktop/ laptop computers: 5 nos (Capable of running video editing, graphic design and pagination software) <u>Specifications</u> Processor: Intel i5 10 generation or higher or Ryzen 7 Octa Core 4800H OS: Linux Dual-channel memory: 8 to 16 GB of RAM media expandable up to 64GB. GPU: at least 4 GB of GPU memory Storage 1: minimum 256 GB fast internal SSD/NVMe Storage 2: 1TB HDD Network: 1 Gigabit Ethernet Warranty: 3 to 5 years onsite warranty Display: Full HD IPS Panel display Screen size: 21 inches or higher Keyboard: wired key board Mouse: Optical Mouse:
		15. Green screen for Chroma key- 1
		16. Stand for Chroma key screen - 1
		17. Projector for mini theatre (above 1500ANSI lumens)-1
		18. Projector screen (wall mount)- 1
		19. Home theatre system – (5.1 surround sound) - 1
4.	List of materials	Nil
5.	List of consumables	Nil

Addendum

Table 1. Status of practical skills envisaged as per the current syllabus:

Sl no	Skill/Activity	Status
<i>(i). Media Lab/Computer-based:</i>		
1.	Designing print media products like newspapers or newsletters and display advertisements using graphic design and layout software.	Adapted (as a classroom work using pencil and paper)
2.	Basic video editing using editing software	Not carried out due to lack of facilities

3.	Basic photo editing using image editing software	Not carried out due to lack of facilities
4.	Social Media Management	To be included
<i>(ii). Media Lab-production studio</i>		
5.	Podcast and audio programme production	Carried out as an optional work due to lack of facilities
6.	News anchoring and news reading	Adapted (as a classroom work)
<i>(iii). Classroom-based</i>		
7.	Video programme and advertising copy scripting	Yes
8.	Storyboarding	Yes
9.	Preparation of technical documents	Yes
10	News Reporting and Editing	Yes
11	Film review	Yes (A mini theatre will be ideal)
<i>(iv). Outdoorwork (using audio-visual equipment)</i>		
12.	Photography and videography using the semi-professional camera	Carried out as an optional work due to lack of facilities
13.	Presentation of piece-to-camera report	Carried out as an optional work due to lack of facilities

Status of practicals of Journalism

Sl no	Skill/Activity	Current Status
<i>(i). Media Lab/Computer-based:</i>		
1.	Designing print media products like newspapers or newsletters and display advertisements using graphic design and layout software.	Adapted (as a classroom work using pencil and paper)
2.	Basic video editing using editing software	Not carried out due to lack of facilities
3.	Basic photo editing using image editing software	Not carried out due to lack of facilities
4.	Social Media Management	To be included
<i>(ii). Media Lab-production studio</i>		
5.	Podcast and audio programme production	Carried out as an optional work due to lack of facilities
6.	News anchoring and news reading	Adapted (as a classroom work)
<i>(iii). Classroom-based</i>		
7.	Video programme and advertising copy scripting	Yes
8.	Storyboarding	Yes
9.	Preparation of technical documents	Yes

10	News Reporting and Editing	Yes
(iv). Outdoorwork (using audio-visual equipment)		
11.	Photography and videography using the semi-professional camera	Carried out as an optional work due to lack of facilities
12.	Presentation of piece-to-camera report	Carried out as an optional work due to lack of facilities



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