

PRIVATE SECONDARY EDUCATION AUTHORITY

MONITORING OF NORMS AND STANDARDS IN A FACILITY RECKONED AS:

AGRICULTURE LABORATORY GRADES 10 & 11 – Year 2021/2022

Subject Appellation and Level:

- **AGRICULTURE - Grades 10 & 11 – SC/OL CIE syllabus code 5038**

Name of School : _____ Date of Verification : _____

Is the Lab. a separate facility? ____ If no, where is the equipment provided ? _____

Is the facility New / Relocated / Existing ? _____

Number of sections and students using this facility:

Grade	No. of Sections	No. of Students	No. of Groups
10			
11			

Educator in Charge: _____ Qualifications: _____

Specialist Room Attendant: _____ Qualifications: _____

IMPORTANT NOTES:

The following conditions should be fulfilled to ensure a reasonable standard:

- The room and floor area provided should be appropriate.
- Provision of a plot of land of minimum area 50m², other than Farm and plot for Grade 9.
- A minimum score of 75 % should be obtained in each of the four Sections A to D.
- Compulsory items in Section D, highlighted in bold characters, should be provided.
- Record of use of the Lab. should be kept as required.

Minimum requirements for a class of 20 students are specified. However, in case of need provision should be made to accommodate up to 4 additional students.

A) PHYSICAL FACILITIES (weightage 30%)						
Item	Description	Quantity Required	Marks Per Unit	Marks Item-wise	Existing	Score (for PSEA use only)
1. Floor Area *Note 1: For existing Labs, the previously approved Floor Area shall be accepted and rated pro-rata. *Note 2: For new Labs. an area of 60m ² is required.	An area of 60m ² or more is recommended.* Conditions of room:	60 m ²	50	3 000		
	<p style="text-align: right;">Ceiling 10%</p> <p style="text-align: right;">Walls 10%</p> <p style="text-align: right;">Flooring 10%</p> <p style="text-align: right;">Set up 10%</p> <p style="text-align: right;">Shape of room 10%</p> <p style="text-align: right;">Cleanliness 10%</p> <p style="text-align: right;">Proper classification 10%</p> <p style="text-align: right;">Lighting 10%</p> <p style="text-align: right;">Ventilation 10%</p> <p style="text-align: right;">Electricity/Gas/Water 10%</p>			1 000		
2. Furniture and Accessories Note 3: For existing demonstration tables, rating is pro-rata on area if size is between 1.6 m ² and 2 m ² . Below 1.6m ² not rated.	i) Work tables – laboratory type fitted with taps, sinks, etc.	Total:15 m ²	25	375		
	ii) Stools	20	20	400		
	iii) Demonstration table (min. 2.00m x 1.00 m)	2m ²	50	100		
	Table is rated only if it has ALL of the 4 facilities listed below :					
	a) Tap (graded type) and Sink	1 set	50	50		
b) Bunsen burner with gas supply	1	50	50			
c) Power point (attached or nearby)	1	50	50			
d) 20 cms higher than work tables	-	50	50			
Note 4: Conditions Problems identified with the conditions of Furniture and Accessories , if any, shall be evaluated on how far they affect teaching and learning on a scale of 1 to 10 before effecting deductions on marks for conditions. The marks may be totally forfeited in case of even a single grave problem with conditions.	iv) Whiteboard or other (243cm x 105 cm)	1	100	100		
	v) Power Point	1	75	75		
	vi) Wall Clock	1	40	40		
	vii) Cupboard	1	100	100		
	viii) Chair for teacher	1	100	100		
	ix) Graded Taps & Sinks of appropriate material provided on worktables	3 sets	50	150		
Conditions of Furniture and Accessories 2 i) to ix)				300		
			Total Section A	5 940		

B) INSTRUCTIONAL TOOLS AND RECORDS (weightage 30%)						
1. Practical Sessions	20 practical sessions per class in the academic year spread over all three school terms. <i>(Records to be kept class-wise and signed by teachers)</i>	Grade	10	11	<i>Average for all sections Reckoned:</i>	
		Section A	.....	.....
		B	.....	.....
		C	.....	.....
		D	.....	.....
		E	.....	.....

		Total			-----	
		20	100	2000	-----	
NOTE: Reckoned pro-rata for the current academic year - max. 20 per class or group on 8.5 months						
2. Audio Visual Lessons	10 lessons per class spread over all three school terms. <i>(Records to be kept class-wise separately in the laboratory record book.)</i>	Grade	10	11		
		Section A	.....	.....
		B	.....	.....
		C	.....	.....
		D	.....	.....
		E	.....	.....

		Total			-----	
		10	100	1000	-----	
NOTE: Reckoned pro-rata for the current academic year - max. 10 per class or group on 8.5 months						
3. Timetable	Signed, dated and displayed in the lab.	1	50	50		
4. Stock book	Up to date and signed & new acquisitions highlighted.	1	50	50		
5. Teaching and Learning Aids						
i) Reference Books	Relevant books/booklets/leaflets published in the field of agriculture	5	20	100		
ii) Multimedia *NOTE: A connectable LED TV of 55" may replace items d) and e)	a) P.C	1	150	150		
	b) Internet	1	150	150		
	c) Printer	1	150	150		
	d) Projector*	1	150	150		
	e) Screen*	1	50	50		

iii) Specimens	Local timber species (assorted)	5	20	100	
	Samples of soils:				
	a) silt		80	80	
	b) clay		80	80	
	c) sandy		80	80	
	e) loam		80	80	
	Selected weeds (pressed specimens)	10	10	100	
	Insects of agricultural importance	6	17	102	
	Empty containers of some examples of:				
	a) Vaccines	2	40	80	
	b) Antibiotics	2	40	80	
	c) Antiseptics/ Disinfectants	2	40	80	
	Preserved specimens of selected internal and external parasites.	3	36	108	
6. Charts					
NOTE: All charts should be of printed quality, of minimum size A ₃ . Lettering/graphics/pictures should be bold and easy to understand by students.	i) Water cycle	1	80	80	
	ii) Nitrogen cycle	1	80	80	
	iii) Carbon Cycle	1	80	80	
	iv) Soil Profile	1	80	80	
	v) Soil organisms	1	80	80	
	vi) Internal structure of leaf	1	80	80	
		Food storage/ perennating organs:			
	a) Rhizomes	1	80	80	
	b) Corms	1	80	80	
	c) Bulbs	1	80	80	
	d) Suckers	1	80	80	
	e) Stolon	1	80	80	
	Breeds of different livestock (including anatomy):				
	a) Ruminants	1	80	80	
	b) Non Ruminants	1	80	80	
	c) Poultry	1	80	80	
			TOTAL		
			SECTION B	5 940	

C) SAFETY ITEMS (weightage 10%)						
Item	Description	Quantity	Marks Per Unit	Marks Item-wise	Existing	Score (for PSEA use only)
1. First Aid Kit	Equipped to treat cuts, burns and eye problems	1	250	250		
2. Fire Extinguisher	Capacity: 2 L or 2Kg (serviced on time)	1	300	300		
3. Fire Blanket	0.9m x 0.9 m	1	250	250		
4. Emergency Exit (clearly indicated)	Additional door for quick exit in case of emergency	1	300	300		
5. Safety Charts (permanently affixed at appropriate places)	Clear instructions about safety precautions. Min. size: A ₃	5	50	250		
6. i) Main Switch /Circuit Breaker ii) ELCB/RCD	Separate for the Agricultural Lab. and located at an accessible place inside the Lab.	1 1	250 250	250 250		
7. Gas conductors (NOTE: Gas tanks to be kept preferably outside the building with an internal gas switch)	Rubber tubing connected to Bunsen Burners should be replaced before expiry date stated thereon	1	50	50		
8. Storage of Chemicals	1. Safe storage and organisation of chemicals etc. 2. Accessibility			50 30		
			TOTAL SECT. C	1 980		

D)	Equipment and Consumables (weightage 30%)	Quantity Required	Marks per Unit	Marks Item wise	Existing	Score (for PSEA use only)
1.	Jars	5	16	80		
2.	Thistle Funnel	1	80	80		
3.	Beakers 50 cm ³	10	8	80		
4.	Beakers 100 cm ³	10	8	80		
5.	Test-tubes	50	1.6	80		
6.	Boiling tubes	20	4	80		
7.	Funnels (Plastic)	10	8	80		
8.	Watch Glasses	20	4	80		
9.	Glass tubes	20	4	80		
10.	Glass rods	20	4	80		
11.	Crucibles	5	16	80		
12.	Droppers with teats	10	4	40		
13.	Plain glass slides (4 boxes of 50 each)	200	0.4	80		
14.	Measuring cylinder 50 cm ³	1	80	80		
	100 cm ³	1	80	80		
	500 cm ³	1	80	80		
15.	Petri-dish with cover	20	4	80		
16.	Thermometer (0° C - 100°C)	10	8	80		
17.	Irrigation tiles	10	12	120		
18.	Drip irrigation pipes (for demonstration)	1 set	120	120		
19.	Wire Gauze	1	80	80		
20.	Pipe Clay	1	40	40		
21.	Crucible Tongs	1	80	80		
22.	Tripods	5	16	80		
23.	Test-tubes racks	5	16	80		
24.	Bunsen Burner + Gas supply	5	24	120		
25.	Microscopes	1	120	120		
26.	Livestock feeds (for cattle, pig, rabbit, poultry); separate ingredients (samples)	4	20	80		
27.	Sample of					
	a) water Pipe	1	80	80		
	b) Connectors	1	80	80		

	c) Reducers	1	80	80		
	d) T	1	80	80		
	e) Valves	1	80	80		
	f) Stopcock	1	80	80		
	g) Washers	1	80	80		
	h) Siphon	1	80	80		
	i) Nipple	1	80	80		
	j) Bend	1	80	80		
	k) Ballcock	1	80	80		
	l) Spanners (Cle anglaise)	1	80	80		
	m) Seal Tape	1	80	80		
	n) PVC glue	1	80	80		
	CHEMICALS AND REAGENTS					
1.	pH paper (or universal indicator)	5 reels	16	80		
2.	Culture solutions tablets	1 set	80	80		
3.	Common fertilizers (samples)	5	16	80		
4.	Lime	1 Kg	80	80		
5.	Ethanol	1 dm ³	80	80		
6.	Iodine Solution	200 cm ³	0.4	80		
7.	Hydrochloric acid (dilute)	500 cm ³	0.16	80		
8.	Nitric acid (dilute)	500 cm ³	0.08	80		
9.	Sulphuric acid (dilute)	500 cm ³	0.16	80		
10.	Benedict's Solutions	500 cm ³	0.16	80		
11.	Eosine or Red Ink	100 cm ³	0.8	80		
12.	Starch	500 gm	0.16	80		
13.	Albumen flakes	200 gm	0.4	80		
14.	Oil or fat	100 cm ³	0.8	80		
15.	Sodium hydroxide	500 gm	0.16	80		
16.	Copper Sulphate	500 gm	0.16	80		

17.	Ammonium hydroxide	500 cm ³	0.16	80		
18.	Distilled water	2 dm ³	40	80		
19.	Common insecticides (min. 1 type)	2 dm ³	60	120		
	Common fungicides (min. 1 type)	2 dm ³	60	120		
	Common nematicides (min. 1 type)	2 dm ³	60	120		
	Common Herbicides (min. 1 type)	2 dm ³	60	120		
20.	Manure / Compost	1 ton	120	120		
			Sub-total Section D	5 480 excluding conditions		

MARKS FOR CONDITIONS & QUALITY OF EQUIPMENT AND CONSUMABLES

	CRITERIA	MAX. MARKS	Rating on a Scale 1 - 10	SCORE
1.	Conditions and quality of equipment and materials	160		
2.	Condition of plot of land – min. 50m ²			
	• Access	75		
	• Topography	75		
	• Maintenance	75		
	• Fencing	75		
	TOTAL	460		

MARK SCHEME AND SCORE

SECTION	WEIGHTAGE	TOTAL MARKS	MARKS SCORED	% SCORE Section-wise
A. Physical Facilities	30%	5 940		
B. Records and Instructional Tools	30%	5 940		
C. Safety	10%	1 980		
D. Equipment and Consumables	30%	5 940		
OVERALL	100%	19 800		

REMARKS AND SHORTCOMINGS

(With particular reference to conditions at page 1 and score obtained)

Signature of PSEA Supervisor / Senior Supervisor (s)

Date:-----

Signature of Manager

Date:-----