

PRIVATE SECONDARY EDUCATION AUTHORITY

MONITORING OF NORMS AND STANDARDS IN A FACILITY RECKONED AS:

DESIGN STUDIO UP TO GRADE 11/13 – year 2021/2022

Subject Appellation and Level:

- DESIGN AND TECHNOLOGY (Graphic Products)- Grades 12&13 - HSC syll. code: 9705
- CDT: DESIGN AND COMMUNICATION – Grades 10 & 11 – SC syllabus code: 7048
- DESIGN AND TECHNOLOGY – Up to Grade 9 & 9+EP (the ‘Graphics’ component – where there is no Design & Technology Junior Workshop) – NCF (Compulsory Core)

Name of School : _____ Date of Verification : _____

No. of Design Studios at school: _____ Studio being monitored: _____

Is the facility New / Relocated / Existing / Upgraded ? _____

Number of sections and students using this facility:

Grade	Extended Program				Regular							
	7	8	9	9+	7	8	9	10	11	12	13	
No. of Sections												
No. of Students												
No. of Groups												

Educator in Charge: _____ Qualifications: _____

Specialist Room
Attendant: _____ Qualifications: _____

IMPORTANT NOTE:

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

- The room and floor area provided should be appropriate.
- 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 Studio 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	Require- -ments	Marks per Unit	Marks Item- wise	Existing	Score (for PSEA use only)
1. Floor Area and Room *NOTES: i) For existing Design Studios, the previously approved Floor Area shall be accepted and rated pro-rata. ii) For new Studios a floor area of 60 m ² is required.	Concrete Building	A minimum area of 60 m ² required *(see Notes)	75 mks/m ²	4500		
	CONDITIONS OF ROOM:			1500		
	Ceiling	Plastered & painted	10%	(Rated pro-rata on area)		
	Walls		10%			
	Flooring	Flat & tiled /appropriate	10%			
	Set Up	Conducive	10%			
	Shape	Convenient	10%			
	Cleanliness	Maintained	10%			
	Proper Storage and Classification	Indexing & Accessibility	10%			
	Lighting	Adequate Natural/ Assisted	10%			
	Ventilation		10%			
Utilities	Water/Gas/ Electricity	10%				
			Sub-Total (Item 1)	6000		

Item	Description	Quantity Required	Marks Per Unit	Marks Item-wise	Existing	Score (for PSEA use only)
2. Furniture and accessories NOTES: Item (ii) – Each workbench fitted with an Engineer's vice, a Quick-release woodworker's vice and a bench-hook Bench size- W60cm xL105cmxH85cm Item (xiv) - For Drilling Machine, Scroll Saw, Bench Grinder, Table band-saw, strip heater, Mitre saw, etc. *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 a single grave problem with conditions.	(i) Table & chair for teacher (table: 1.25x0.75m)	1 set	100	100		
	(ii) Rigid workbench fitted with vices (re: side-notes)	2 Benches 4 vices 2 bench-hooks	100 75 25	200 300 50		
	(iii) Tables (0.3 m ² per pupil) (re item iv)	20	20	400		
	(iv) In-built drawing boards for A2 size paper— <i>adjustable or inclined if separate.</i>	20	5	100		
	(v) Stools	20	15	300		
	(vi) Modelling /Assembly Table (2m x 1m)	1	80	80		
	(vii) Whiteboard (243 cms X 106 cms)	1	100	100		
	(viii) Storage Cabinets	2	50	100		
	(ix) Wall Clock	1	50	50		
	(x) PowerPoints	Total 12	10	120		
	(xi) Tap and sink	1 set	50+50	100		
	(xii) Shelf / Racks for displaying models & projects	Storage space: 5mx0.3m	80	80		
	(xiii) Tool racks	2 for min 25 units	50	100		
	(xiv) Rigid worktable for equipment – <i>a single unit or otherwise</i>	Total surface area min. 4 m ²	37.5/m ²	150		
	Conditions of items (i to xiv)*			400		
			Total Section A	8730		Score sect A
Actual Marks Scored on Section A = $\frac{\text{Score sect A}}{15000} \times 15000 =$ _____						
8730						

(B) INSTRUCTIONAL TOOLS & RECORDS (weightage 30%)		Quantity Required	Marks per Unit	Marks Item-wise	Existing	Score (for PSEA use only)						
1. Record of Practical Sessions NOTE: If school has a D&T Junior Workshop, practicals for Ext. Prg. and Gd 7 to 9 are not reckoned here.	A minimum of 20 practical sessions per class in the academic year spread over all three school terms for Gds. 10-13 and 10 for lower Gds. <i>(Records to be kept class-wise and signed by teacher(s))</i>	20	200	4000	Average for all classes reckoned: -----	-----						
GRADE	Ext. Prg.	Regular										
	7 8 9 9+	7	8	9	10	11	12	13				
Class/Group	A											
	B											
	C											
	D											
	E											
	F											
Total (x2 up to G 9R)												
NOTE: Reckoned pro-rata for the current academic year - max. 20 per class or group on 8.5 months.												
2. Record of Audio Visual Lessons NOTES: If school has a D&T Junior Workshop, A/V lessons for Ext. Prg. and Grades 7 to 9 are not reckoned here.	A minimum of 10 lessons per class in the academic year spread over all three school terms for Gds. 10-13 and 5 for lower Gds. <i>(Records to be kept in the workshop, class-wise and signed by teacher(s))</i>	10	150	1500	Average for all classes reckoned: -----	-----						
GRADE	Ext. Prg.	Regular										
	7 8 9 9+	7	8	9	10	11	12	13				
Class/Group	A											
	B											
	C											
	D											
	E											
	F											
Total (x2 up to G 9R)												
NOTE: Reckoned pro-rata for the current academic year - max. 10 per class or group on 8.5 months.												

3. Timetable of sessions in the Studio	With school seal and year stated.	1 displayed	50	50		
4. Stock Book	Up to date and signed New items highlighted	1	50	50		
5. Teaching and Learning Aids Note: Items (iii to v) to include charts and models of: • Shapes & Colours • Drawing Systems • Drawing Aids • Information Graphics • Design Process • Drawing Conventions as per BS 8888 • Rendering Media & Techniques • Jointing Systems in Model-Making • Materials • Simple Electrical & Electronic circuits, components and Graphic Symbols • Structures • Cams & Linkages • Pop Ups • Smart Materials • Mechanical Toys • Packaging • Corporate Identity • Interactive Displays • Architectural Models • Finishes for model-making. * Autocad, Autosketch, Pagemaker, Corel Draw, Banner, Microsoft Publisher OR open-source softwares like e.g. AAA Logo, MSPaint Archicad, Logo Design,	(i) Reference Books <i>(Published in the past 3 years)</i> (ii) Magazines <i>(Published in the past 2 years)</i> (iii) Wall-charts (iv) Project Models for: • Grades 7-9 • Grades 10-11 • Grades 12-13 (v) 3-D Teaching Models (vi) Samples of Materials (vii) Relevant products for product analysis (vii) Isometric grid Board – 1 m² (vii) Orthographic Grid board – 1 m² (viii) Drawing equipment (board): • Protractor • Compasses • Ruler • Set Squares – 45 ^o and 60 ^o (ix) Multimedia: ○ PC/Laptop ○ Colour Printer ○ Scanner ○ LCD Projector + Screen OR LED TV 55" ○ Internet ○ Any 3 Graphics software *(re: note)	5 10 15 5 5 5 15 15 20 (simple & complex) 1 1 1 1 1pair 1 1 1 1 Connected 3	40 20 14 25 25 25 20 15 7.5 200 200 100 100 100 50/unit 300 150 150 350 150 50	200 200 210 125 125 125 300 225 150 200 200 100 100 100 100 300 150 150 350 150 150		
				Total 9310		Score sect B

Actual Marks Scored on Section B = (Score sect B/9310) x 15000 = _____

(C) SAFETY ITEMS : weightage 10%						
Item	Description	Quantity Required	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	400	400		
2) Fire Extinguisher	Capacity: 2 L/2kg (serviced on time)	1	400	400		
3) Fire Blanket		1	150	150		
4) Emergency Exit (clearly indicated)	Additional door for quick exit in case of emergency	1	400	400		
5) Safety Charts (On cutting processes, use of power tools, machines and electrical appliances)	Clear safety precautions on charts displayed at appropriate places.	5	80	400		
6) a) Main Switch/Circuit Breaker b) ELCB/RCD	Separate for the Design Studio	1 1	200 200	200 200		
8) Protective Equipment	<ul style="list-style-type: none"> • gloves – rubber and leather • eye goggles • face shield or clear spectacles • respirator mask (polystyrene) • ear muffs • aprons 	5 pairs 5 5 20 5pairs 5	15 15 15 4 15 15	75 75 75 80 75 75		
9) Cleaning Items	a) Vacuum cleaner b) Liquid soap c) Brushes d) Brooms	1 250 ml 5 5	250 100 15 15	250 100 75 75		
			Total Section C	3105		Score Sect C
<p><u>CAUTION:</u> No student should be allowed to operate any power equipment or hazardous tool except under close teacher supervision and while observing all safety precautions, like wearing appropriate protective equipment.</p>						
<p style="text-align: center;">Actual Marks Scored on Section C = [<u>Score Sect C</u>] x 5000 = _____</p> <p style="text-align: center;">3105</p>						

(D) EQUIPMENT & CONSUMABLES – weightage:30%**Up to Grade 9: Items nos. 1 to 26 + Consumables nos. 72 to 101 + Conditions Sect. D****Up to Grade 11: Items nos. 1 to 61 + Consumables nos. 72 to 101 + Conditions Sect. D****Up to Grade 13: Items nos. 1 to 100 + Conditions Sect. D**

Item No.	Description	Quantity Required	Marks Per Unit	Marks Item-wise	Existing	Score <i>For PSEA use only</i>
1.	Artist paintbrush	20	3	60		
2.	Bradawl	5	24	120		
3.	Coping Saw	2	60	120		
4.	Cutting Pad (A3 size)	6	30	180		
5.	Flexi or French Curve	6	30	180		
6.	Glue Gun	3	60	180		
7.	Guillotine	1	180	180		
8.	Hand drill	1	180	180		
9.	Lettering Stencils – assorted sizes and styles	20	9	180		
10.	Pencil Compasses	20	3	60		
11.	Protractor	20	3	60		
12.	Sanding Pad	5	36	180		
13.	Trimming Knife (metal cast body)	4	45	180		
14.	Scissors – General purpose	20 pairs	3	180		
15.	Scoring Tool or Alternative	4	15	60		
16.	Scroll Saw	1	120	120		
17.	Set Square – 45 ⁰ ~ 200mm	20	3	60		
18.	Set Square – 60 ⁰ ~ 200mm	20	3	60		
19.	Stapler	2	30	60		
20.	Geometrical Solids (Geometrical forms including cube, cuboid, pyramids, prisms of various sections)	10 asstd.	18	180		
21.	Steel rule (1 m – graduated)	1	60	60		
22.	Table-mounted pencil sharpener	2	90	180		
23.	Trimming Knife (plastic body)	10	18	180		
24.	Try Square – blade 150 mm	10	12	120		
25.	Drills (1 to 10 mm X 0.5 mm) • for wood • for metal	set of 10 sizes set of 10 sizes	18 18	180 180		
26.	Drawing Stencils – assorted types and sizes	6	30	180		
			Up to Grade 9	Total (1-26) 3660		

Item No.	Description	Quantity Required	Marks Per Unit	Marks Item-wise	Existing	Score <i>For PSEA use only</i>
ADDITIONAL EQUIPMENT FOR UP TO GRADE 11						
27.	Bloc Plane	2	60	120		
28.	Calligraphy pen	2 sets	60	120		
29.	Carving/engraving tools	2 sets	30	60		
30.	Camera - Digital (min. 8 megapixels) OR Lens-type high resolution	1	180	180		
31.	Electric extension lead + stand	1	60	60		
32.	Eyelets Fixing Tool	1	60	60		
33.	Files – 150mm assorted types and grades	12	10	120		
34.	Folding bars	1 pair	60	60		
35.	G-Cramp (small)	6	20	120		
36.	Geometrical Solids (Geometrical forms including truncated, sectioned and interpenetrated prisms and pyramids)	10 asstd.	18	180		
37.	Hole Punch – 4 diameters	4	15	60		
38.	Hammers – light-weight - assorted types	10	18	180		
39.	Hot-wire Cutter	1	120	120		
40.	Hand-operated paper Perforator for binding design folios	1 <i>(may be a shared facility)</i>	120	120		
41.	Hacksaw	10	6	60		
42.	Junior Hacksaw	10	12	120		
43.	Jigsaw + cutter blades	2	30	120		
44.	Mitre block	1	60	60		
45.	Modular Construction Kit	5 asstd.	24	120		
46.	Needle Files	4 sets	30	120		
47.	Paper Punch	2	90	180		
48.	Portable power drill – variable speed	1	180	180		
49.	Portable cordless power screwdriver	1	120	120		
50.	Pliers: i) Combination ii) Round nose	2 2	60 30	120 60		
51.	Pincers	2	30	60		
52.	Piercing Saw	1	120	120		
53.	Screwdriver -Standard	Set of 6	10	60		
54.	Screwdriver -Phillips	Set of 6	10	60		
55.	Strip Bender	1	120	120		
56.	Sliding bevel	4	30	120		

57.	Sewing Needles – assorted sizes	5 pks	12	60		
58.	T-Square or Parallel Drafting Device	20	6	180		
59.	Wire Cutter	4	30	120		
60.	Wooden Mallet - light	6	20	120		
61.	Woodworking Chisel – various types and sizes	10 asstd.	12	120		
		Up to Grade 11	Sub-Total Items 1-61	7620		
ADDITIONAL EQUIPMENT UP TO GRADE 13						
62.	Airbrush with spray system /compressor (light duty kit)*	1	120	120		
63.	Block printing equipment (rollers, wooden blocks with lino or alternative, old blanket + 2 sample block designs)*	6 sets	20	120		
64.	Construction kits with components for simple: a) electric circuits b) electronic circuits c) linkages d) mechanisms d) structures e) hydraulics f) pneumatics systems <i>(which can be incorporated in Graphic Products like pop-ups, animated and light emitting displays, musical cards)</i>	7 developing technologies	25	180		
65.	GRP work equipment – (moulding board, paintbrushes, metal rollers + 2 sample patterns)*	1 set	120	120		
66.	Photocopying machine (as a facility at school)	1	120	180		
67.	Patterns for vacuum forming	3	40	120		
68.	Safe Heat source – oven or heat gun* <i>(Re. NOTES)</i>	1	120	120		
69.	Simple bending Jigs & Formers	5	24	120		
70.	Screen printing equipment (frame, squeegee and self-adhesive wax paper)**	6 sets	20	120		
71.	Vacuum Former (small)	1	120	120		
NOTES: *If gas is used, the gas conductor should be replaced before expiry date stated thereon.						
**For these items, Inks, Catalysts, Acrylic base and Pigments to be provided as and when needed.						
		Up to Grade 13	Sub-Total Items 1-71	8940		

BASIC LIST OF CONSUMABLES IN STOCK FOR ALL GRADES						
Item No.	Description	Quantity Required	Marks Per Unit	Marks Item-wise	Existing	Score For PSEA use only
72.	Adhesive plastic tape	2 reels	90	180		
73.	Abrasive paper: a) Sand paper b) Emery paper – (assorted grades)	15 sheets 15 sheets	12 12	60 60		
74.	Acrylic (Perspex) – 4 mm thick – clear & coloured	2 sheets or equi. off-cuts	60	120		
75.	Bifurcated Rivet	4 boxes	30	120		
76.	Blue Tack	4 packs	30	120		
77.	Bristol Paper – assorted colours – A₂ Size	100 sheets	1.8	180		
78.	Carton Sheet – smooth white surface – A₂ Size	60 sheets	3	180		
79.	Carton Sheet – thick- A ₂	40 sheets	3	120		
80.	Contact Paper – assorted colours and textures-A ₂	40 sheets	3	120		
81.	Contact Adhesive	6 tubes/250ml	30	180		
82.	Cotton Thread	4 reels	15	60		
83.	Copper/aluminium and Soft Steel wires – asstd. thickness	4 reels asstd.	30	120		
84.	Dowels – asstd. diameters	20 m	6	120		
85.	Drawing paper A ₂ /A ₃ /A ₄ (asstd. sizes)	60 sheets (for demonstr.)	3	180		
86.	Elastic Band – flat type	5 reels	12	60		
87.	Expanded Polystyrene: i) Sheets - min.size A2 ii) Blocks – any size	20 20	9 9	180 180		
88.	Glue stick	20 tubes	9	180		
89.	Glue gun stick	30	6	180		
90.	Masking Tape	4 reels	45	180		
91.	Muslin Paper – ass. colours	40	3	120		
92.	MDF boards – 6 mm	3 sheets	40	120		
93.	PVA Glue	2 litres	60	120		
94.	Panel Pins	3 boxes	40	120		
95.	Paper Clips	1 box	60	60		
96.	Paper Glue - liquid	1 litre	180	180		
97.	Polystyrene sheet- min. size A4	20	6	120		
98.	Staples	2 boxes	30	60		
99.	Screws – self tapping – asst (small) - brass – asstd.	120 120	1 1	120 120		
100.	Textured and Corrugated Paper/Carton A₄ Size	40 sheets	3	120		
101.	Thumb Tacks	4 boxes	30	120		
		Sub-Total Items 72-101		4260		
		Sub-Total Items 1-101		13200		

CRITERIA FOR MARKING CONDITIONS AND QUALITY OF EQUIPMENT

		UP TO GRADE 9	UP TO GRADE 11	UP TO GRADE 13	SCORE
1.	Conditions of light power tools (e.g. Power Drill; Scroll Saw)	50	100	150	
2.	Maintenance of hand cutting/marking tools in regular use. (e.g. Chisels; Drills; Planes)	50	100	150	
3.	All power tools provided with good electrical cords & fittings.	50	100	150	
4.	Conditions of drawing equipment (e.g. Boards; T Squares; Set Squares)	50	100	150	
	TOTALS	200	400	600	

CALCULATING SCORE ON SECTION D

Actual Marks Scored on sect. D: Score on items (1-61) + (72-101) + Score on Conditions x 15000=
(Up to Grade 9) 8120

Actual Marks Scored on sect. D: Score on items (1-61) + (72-101) + Score on Conditions x 15000=
(Up to Grade 11) 12 280

Actual Marks Scored on sect. D: Score on items (1-101) + Score on Conditions x 15000= _____
(Up to Grade 13) 13 800

MARK SCHEME AND SCORE

SECTION	WEIGHTAGE	TOTAL MARKS	ACTUAL MARKS SCORED (up to Gd. 9)	ACTUAL MARKS SCORED (up to Gd. 11)	ACTUAL MARKS SCORED (up to Gd. 13)	% SCORE SECTION-WISE
A. Physical Facilities	30%	15 000				
B. Instructional Tools & Records	30%	15 000				
C. Safety Items	10%	5 000				
D. Equipment and Consumables	30%	15 000				
OVERALL	100%	50 000				

REMARKS AND SHORTCOMINGS

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

Signature of PSEA Supervisor / Senior Supervisor (s)

Signature of Manager

Date:-----

Date:-----