



NATIONAL VOCATIONAL TRAINING INSTITUTE
TESTING DIVISION

TRADE TESTING REGULATIONS AND SYLLABUS

TRADE: PAINTING AND DECORATING

LEVEL: CERTIFICATE ONE

A. INTRODUCTION:

- i. The review of this syllabus has been generally influenced by the demands of industries due to its continuous change as a result of technological advancement and the changing needs of society.

It was also influenced by the TVET reforms under the directions of the new educational reforms with the view to opening up further education and training opportunities to TVET graduates.

The certificate ONE syllabus is designed to respond to the following level descriptors:

QUALIFICATION	KNOWLEDGE LEVEL	SKILLS AND ATTITUDE:
Certificate 1	<ul style="list-style-type: none">1. To demonstrate a broad knowledge base incorporating some technical concepts.2. To demonstrate knowledge of the theoretical basis of practical skills.3. To demonstrate knowledge in numeracy, literacy, IT and Entrepreneurial skills	<ul style="list-style-type: none">1. Require a wide range of technical skills2. Are applied in a variety of familiar and complex contexts with minimum supervision.3. Require collaboration with others in a team

- ii. Knowledge and safe use of various types of brushes, paint rollers, etc. to apply paint and other decorative materials. Mixing of paint according to the desired colours. Uses of various types of scaffold, etc.

B. THE GENERAL OBJECTIVES

On completion of this course, the trainee should be able to:

- i) understand the sources of paint and other decorative materials and their uses.
- ii) understand the correct use and handling of painting and decorating tools and equipment.
- iii) understand the safety precautions to be observed when using the tools and equipments.
- iv) identify and remedy faults and defects in painting.
- v) understand the processes involved in preparing various surfaces to receive paint.
- vi) understand the correct sequence of paint application.
- vii) understand, read and interpret blue prints.
- viii) understand the basic principles and uses of portable mechanical hand tools.
- ix) understand basic workshop and site safety principles and their application.
- x) understand basic colour theory and terminology.
- xi) construct and fill-in basic sign work.
- xii) understand basic principles of spray painting.
- xiii) understand geometrical drawing, trade drawing, trade science and calculation.

C. THE COURSE COMPONENTS

The course comprises of:

- a. Trade Theory
- b. Trade Science and Calculation
- c. Trade Drawing
- d. General Paper
- e. Trade Practical

EXAMINATION: The candidates would be examined in the FIVE components listed in 'C' above.

Practical work must be carefully planned to illustrate the application of trade Technology, Science and Calculations, and Drawing; so as to provide maximum opportunity for craft practice. It is recommended that not less than 60% of the course time should be allowed for craft practice.

D. KNOWLEDGE AND SKILLS REQUIREMENT

The prime objective of the programme is to provide knowledge and skills of the trade in a manner that will best meet the needs of the trade as well as industries using professional equipments

E. ENTRY TO THE COURSE

Minimum education: Must have passed JHS or SHS examination/Foundation Certificate. However, the selection of the students for the course is within the discretion of the head of the institution.

F. ELIGIBILITY FOR ENTRY TO EXAMINATION

Candidates may enter for examination only as internal candidate; that is those who at the time of entry to the examination are undertaking (or) have already completed the course at an approved establishment.

G. EXTERNAL EXAMINERS

The practical work of candidates will be assessed by an external examiner appointed by the Trade Testing Commissioner.

H. EXAMINATION RESULTS AND CERTIFICATES

Each candidate will receive record of performance given the grade of performance for the components Taken. These are:

- i) Distinction
- ii) Credit
- iii) Pass
- iv) Referred/Fail

Certificates would be issued to candidates who pass in all the components.

NOTE:

All Technical and Vocational trainees who aspire to take advantage of the opportunities opened to them in the educational reforms should NOTE that, for a trainee to progress to certificate Two (2) a pass in Certificate One (1) is compulsory.

I. APPROVAL OF COURSE

Institutions or other establishments intending to prepare trainees for the Examination must apply to:

THE COMMISSIONER
TESTING DIVISION
NVTI HEAD OFFICE
P. O. BOX MB 21, ACCRA

J. ACKNOWLEDGEMENT

Mr. George Allan Mends
Mr. John Quansah C&G Advanced Cert. In Education

Government's desire to improve the lot of Technical/Vocational Training which led to the preparation of this syllabus is hereby acknowledged.

RECOMMENDED TEXT BOOKS FOR THE TRADE

Painting and Decorating – An Information Manual (4th Edition) By A. Fulcher & Co.
Dictionary of Painting and Decorating (3rd Edition) By J.H. Goodier
Basic Building Craft Science By A. Fulcher & Co.
Painting and Decorating (10th Edition)
By A.E. Hurst/J.H. Goodier
Painter's Craft Science By L.F.J. Tubb

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TOOLS AND EQUIPMENT

1. Paint brushes (assorted)
2. Stippling brushes
3. Paint rollers (assorted)
4. Roller trays
5. Extension poles
6. Knives:
 - Palett knife
 - Hacking knife
 - Filling knife
 - Stripping knife/scrapper
 - Caulking tool
 - Shave hooks
7. Paint stirrer
8. Wire brush
9. Paint strainer
10. Filling board
11. Rubbing block
12. Hammer
13. Nail punch
14. Pincers
15. Pointing trowel
16. Screw driver (set)
17. Tape measure
18. Plumb bob
19. Spirit level
20. Scale rule
21. Scissors
22. Straight edge
23. Lining fitches

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24. Writers/signwriting brushes
25. Stapler
26. Squeegees
27. Electric iron
28. Stencil brushes
29. Palette or thumb board
30. Dippers
31. Chalk line

EQUIPMENT

1. Blow lamp
2. Gas torches
3. Buckets
4. Paint kettles
5. Paint hooks
6. Ladders
7. Trestles/step ladders
8. Spraying gun
9. Compressor
10. Hoses
11. Sanders
12. Steam stripper
13. Printing table
14. Screen printing machine
15. Screen shooting board

SAFETY EQUIPMENT

1. Goggles
2. Respirator
3. Face mask
4. Gloves

CERTIFICATE ONE – TRADE THEORY

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
1.0	REASONS FOR APPLYING PAINT	<p>Four main reasons for applying paint to surfaces:</p> <ul style="list-style-type: none"> • Preservation • Decoration • Sanitation • Identification 	<p>Describe what is meant by:</p> <ul style="list-style-type: none"> • Paint • Painting 	<p>Discuss with trainees paints and its application</p>
2.0	TOOLS AND EQUIPMENT	<p>Hand tools used in Painting and Decorating and their uses: Stripping knife, shave hook, filling knife, hacking knife, palette knife etc.</p> <p>Identify the Basic Equipments and their Uses:</p> <ul style="list-style-type: none"> • Rotary disc sander, orbital sander, needle gun, blow lamp, steam stripper, etc. 	<p>Importance of tools and equipment.</p> <p>Safe handling of tools and equipment.</p> <p>Storage, care and maintenance of tools and equipments.</p>	<p>Display the original tools or charts of equipments</p> <p>Discuss with trainees the uses of the various tools and equipments.</p>
3.0	BRUSHES	<p>Types of Brushes and their Uses:</p> <p>Flat paint brush, dusting brush, radiator brush, flat wall brush, block brush etc.</p> <p>Various materials used as brush filling and their sources:</p> <ul style="list-style-type: none"> • Animal source – hog hair, ox hair, horse hair etc. • Vegetable source – Fibre • Synthetic – nylon, perlon tynex, etc. 	<ul style="list-style-type: none"> • Construction and binding of brushes. • Care and maintenance • Cleaning of brushes after use • Storage 	<p>Display types of brushes or pictures</p> <p>Discuss with trainees the uses, care, maintenance and storage of each type</p>

CERTIFICATE ONE – TRADE THEORY

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
4.0	PAINT ROLLER	<p>Types of Paint rollers :</p> <p>Rollers and their uses</p> <ul style="list-style-type: none"> • Cylinder roller • Curved roller <p>Different types of roller coverings and their suitabilities</p> <ul style="list-style-type: none"> • Lambs wool, mohair, synthetic plastic foam etc. 	<p>Characteristics of covering materials:</p> <ul style="list-style-type: none"> • Short • Medium and • Long piles • Cleaning techniques • Care and maintenance of rollers • Storage • Use of extension arms 	<p>Display real types of rollers, charts or pictures.</p> <p>Discuss with trainees their uses and handling techniques</p> <p>Discuss with students care, cleaning, maintenance and storage.</p>
5.0	PREPARATION OF PLASTER AND CEMENT-BASED SURFACES	<p>Procedure involved in preparing the following surfaces:</p> <ul style="list-style-type: none"> • Concrete, cement rendering, blockwork, stonework 	<ul style="list-style-type: none"> • Removal of plaster nibs with scraper • Making good large holes and cracks • Safety precautions to be observed in the process 	<p>Guide trainees to select correct tools</p> <p>Discuss with trainees the processes involved in preparing each surface</p>
6.0.	PREPARATION AND PRIMING OF METAL SURFACES	<p>Types of Surfaces:</p> <ul style="list-style-type: none"> • Ferrous metals • Non-ferrous metals • Select appropriate tools to be used • Select and apply appropriate primers 	<p>Removal of rust and mill scale:</p> <ul style="list-style-type: none"> • Scraper, wire-brush, steel wool or abrasive • Use of safety and protective equipments • Cleaning and storage of tools <p>Suitable primers:</p> <ul style="list-style-type: none"> • Red lead • Calcium plumbate etc. 	<p>Guide trainees to identify correct tools to be used</p> <p>Discuss with trainees the processes involved in the preparation.</p> <p>Discuss the types of primers used for ferrous and non-ferrous metals</p>

CERTIFICATE ONE – TRADE THEORY

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
7.0	PREPARATION OF WOOD SURFACES	Processes involved in preparing wood surfaces: <ul style="list-style-type: none"> • Softwood, hardwood, plywood, chipboard, blockboard, etc. • Selection of appropriate tools and primers to be used 	Checking of moisture content and rubbing down Treatment of knots (if any)	Discuss with trainees the processes involved in their preparation
8.0	SAFETY, HEALTH AND WELFARE	Importance of applying safety, health and welfare regulations in the following situations: <ul style="list-style-type: none"> • Accidents in the workshops • First aid to all injuries • Safe working habits • Causes of fire • Storage of materials • Lead paint regulations • Fumes, noise, dust, vibration etc. 	<ul style="list-style-type: none"> • Flame spread classification • Safety relating to scaffolding 	Discuss with trainees
9.0	PREPARATION OF PREVIOUSLY PAINTED SURFACE (OLD)	Process involved in preparing previously painted surfaces: <ul style="list-style-type: none"> • Burning off • Removal of paint by paint removers • Washing down for painting • Washing off to remove distemper and powdery materials • Abrading and sealing 	<ul style="list-style-type: none"> • Precautions to be observed when burning off • Safety precautions when using liquid paint removers • Properties of alkaline and spirit removers 	Discuss with trainees

CERTIFICATE ONE – TRADE THEORY

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
10.0	ABRADING MATERIALS	Abrading material: <ul style="list-style-type: none"> • Glass paper/sandpaper • Emery cloth • Wire brush • Steel wool 	Reasons for abrading a surface	Discussion with trainees demonstration
11.0	STOPPING, FILLING AND MAKING GOOD	Stoppers: <ul style="list-style-type: none"> • Hard stopper • Mastic • Two-pack stopper etc. Fillers: <ul style="list-style-type: none"> • Poly filler • Oil base filler • All purpose filler etc. 	Characteristics and uses of various filling and stopping materials	Display samples of stoppers and fillers. Discuss with trainees
12.0	COMPOSITION OF PAINTS	Components of Paints: <ul style="list-style-type: none"> • Pigment, binder, drier, thinner • Functions of the components 	Types of paints: <ul style="list-style-type: none"> • Oil paint • Cellulose paint • Water paint etc. 	Show samples of components to trainees Discuss with trainees
13.0	SEQUENCE OF PAINT APPLICATION	<ul style="list-style-type: none"> • Correct sequence of applying paints • Sealer, primer, undercoat, finishing 	Explain the correct order on <ol style="list-style-type: none"> Wood Plaster Metals 	Discuss with trainees
14.0	FUNCTIONS OF SURFACE COATINGS	Functions of surface coatings: <ul style="list-style-type: none"> • Primer, undercoat, finishing, sealer 	Explain where each coating is applicable. Wood, plaster metal etc.	Discuss with trainees

CERTIFICATE ONE – TRADE THEORY

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
15.0	TRANSPARENT AND SEMI-TRANSPARENT COATINGS	Transparent and semi-transparent coatings: <ul style="list-style-type: none"> • Varnish, stains, wood preservatives • Uses of transparent and semi-transparent coatings: • Functions of such coatings 	Explain where each coating is applicable. Precautions to be taken when applying such coatings	Show samples of coating to trainees Discuss
16.0	SPECIAL PURPOSE PAINTS	Paints applied for special purposes: <ul style="list-style-type: none"> • Floor paints • Chlorinated rubber paint • Fire retardant paint • Aluminium paints • Acrylic paints • Texture paint • Anti-fungus paint • Anti-condensation paint etc. 	<ul style="list-style-type: none"> • Types of thinner used in each coating • Preparation of surface before application • Cleaning of tools • Storage 	Discussion with trainees activities
17.0	WATER PAINTS	Types of water paints: Distemper, emulsion paints, cement paints, acrylic paint, texture paints Uses and suitabilities	<ul style="list-style-type: none"> • Correct tools for application • Cleaning of tools 	Show samples of paint to trainees. Discussion

CERTIFICATE ONE – TRADE THEORY

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
18.0	COLOUR	<p>Ten principal colours on the Munsell colour circle:</p> <p>Mixtures of primary, secondary and tertiary colours</p> <p>Neutral and spectrum (rainbow) colours</p>	<p>Three properties of the Munsell colour code:</p> <ul style="list-style-type: none"> • Hue • Value • Chroma 	<p>Chalkboard illustration</p> <p>Discussion</p>
19.0	COLOURS	<p>Basic colour terms:</p> <ul style="list-style-type: none"> • Tint, shade, tone value, monochrome, advancing colours, pastel, receding colours, analogous, complementary, harmony, triadic, discord etc. 		<p>Chalkboard illustrations</p> <p>Discussion</p>
20.0	LETTERING	<p>Construction of letters:</p> <ul style="list-style-type: none"> • Block • Modern block • Gill san serif 	<p>Tools for lettering:</p> <ul style="list-style-type: none"> • Writers • Dippers • Mahl stick 	<p>Chalkboard illustration</p>
21.0	STENCILING	<p>Techniques in cutting stencils:</p> <p>Importance of stencil ties</p>	<p>Positive and negative stencils</p> <p>Tools for producing stencils</p>	<p>Chalkboard illustrations</p>

CERTIFICATE ONE – TRADE THEORY

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
22.0	LADDERS, TRESTLES AND STEP LADDERS	<p>Difference between ladder, trestle and step ladder:</p> <p>Parts and construction of ladders etc.</p> <p>Uses of each equipment</p>	<ul style="list-style-type: none"> • Correct method of erections: • Safety precaution when using ladders, trestles and step ladders • Storage 	<p>Discussion</p> <p>Illustration</p>
23.0	SCAFFOLDING	<p>Different types of scaffold:</p> <ul style="list-style-type: none"> • Putlog, independent, slung, birdcage etc. • Various parts of a scaffold and their functions • Uses of various scaffolds 	<ul style="list-style-type: none"> • Safety precautions to be observed when using scaffolds • Care and maintenance 	<p>Uses charts or chalkboard illustrations</p>
24.0	METHODS OF PAINT APPLICATION	<p>Methods of application:</p> <ul style="list-style-type: none"> • Brushing • Rolling • Spraying 	<p>Advantages of each method:</p> <p>Disadvantages of each method</p>	<p>Discussion</p>
25.0	SPRAY PAINTING	<p>Process of spraying:</p> <p>The basic types of spray guns</p> <ul style="list-style-type: none"> • Gravity, suction, pressure feed, • Parts of a spray-gun and their functions • Spray-gun set-up • Basic techniques in spraying 	<ul style="list-style-type: none"> • Difference between bleeder and non-bleeder guns. • Cleaning and maintenance of guns • Storage • Safety precautions 	<p>Show real gun and parts</p> <p>Use pictures or charts for illustration</p>

CERTIFICATE ONE – TRADE SCIENCE AND CALCULATION

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
1.0	PROPERTIES OF PIGMENTS	Properties: <ul style="list-style-type: none"> • Organic • Inorganic • Specific gravity • Opacity • Resistance to acids • Resistance to alkalis • Tinting strength • Structure (crystalline or amorphous) 	Types of pigments	Discussion with trainees
2.0	CHARACTERISTICS OF PIGMENTS	Characteristics: <ul style="list-style-type: none"> • Oil absorption • Durability • Drying • Film producing characteristics etc. 	Difference between properties and characteristics	Discussion with trainees
3.0	CHARACTERISTICS OF SUBSTRATES	Examples: <ul style="list-style-type: none"> • Very absorbent surfaces • Absorbent surfaces • Non absorbent surfaces • Chemically active surfaces • Corrodible surfaces • Bleeding and non-drying surfaces etc. 	Examples of surfaces Wood Plaster Asbestos Iron/steel Aluminum etc.	Discussion with trainees

CERTIFICATE ONE – TRADE SCIENCE/CALCULATION

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
4.0	DRYING OF PAINT FILMS	Drying processes: <ul style="list-style-type: none"> • Evaporation • Oxidation • Polymerization • Coalescence 	Conditions that can influence the drying of paint. <ul style="list-style-type: none"> • Cold, fog, draught, rain, dampness, darkness, condensation etc. 	Discussion with trainees
5.0	DEGREE OF SURFACE SHEEN	Examples: <ul style="list-style-type: none"> • Matt/flat • Eggshell • Semi-gloss • Gloss • High gloss 	Difference between the various surface brightness. Factors that influences the various surface sheens	Discussion with trainees
6.0	EXPANSION AND CONTRACTION	Materials: E.g. Timber, blocks, metals, plastics etc.	Causes: Heat Moisture Heat transfer: <ul style="list-style-type: none"> • Conduction • Convection • Radiation 	Discussion with trainees
7.0	SPONTANEOUS COMBUSTION	Materials: <ul style="list-style-type: none"> • Crumbled rags • Solvent • Paint – soaked foam 	<ul style="list-style-type: none"> • Causes • Prevention 	Discussion with trainees
8.0	PHYSICAL AND CHEMICAL CHANGE	Examples: Physical change – Water, ice block Chemical change – Wood, charcoal	Reversible and non-reversible coatings	Demonstrate Discuss with trainees
9.0	EFFLORESCENCE	Surfaces: <ul style="list-style-type: none"> • Concrete • Plaster • Block 	Treatment of efflorescence	Discuss with trainees

CERTIFICATE ONE – TRADE SCIENCE/CALCULATION

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
10.0	ADDITION, SUBTRACTION, MULTIPLICATION AND DIVISION	Addition – $17 + 23 = 40$ Subtraction – $45 - 18 = 27$ Multiplication – $50 \times 16 = 800$ Division – $120 \div 10 = 12$		Chalkboard activities Discussion with trainees Assess trainees
11.0	FRACTIONS	Types <ul style="list-style-type: none"> • Proper • Improper • Vulgar 	Method: <ul style="list-style-type: none"> • Addition • Subtraction • Multiplication • Division 	Chalkboard activities Discussion Assess trainees
12.0	DECIMALS	Types: <ul style="list-style-type: none"> • Addition • Subtraction • Multiplication • Division 		Chalkboard activities Discussion Assessment
13.0	RATIO AND PROPORTIONS	Examples 21 orange in ratio $3:4 = 9, 12$ 40 book in ratio $3:5 = 15,25$		Chalkboard activities Discussion Assess trainees
14.0	PERCENTAGES	Examples: -40% of 200 = $\frac{40}{100} \times 200 = 80$ -15% of 75 = $\frac{15}{100} \times 75 = 11.25$		<ul style="list-style-type: none"> • Chalkboard activities • Discussion • Assess trainees

CERTIFICATE ONE – TRADE SCIENCE/CALCULATION

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
15.0	METRIC SYSTEM	Quantity Measured Length, mass, capacity etc.	Units Length: Millimetre, centimeter, metre, kilometer etc. Mass: Milligram Gram Kilogram Capacity Millilitre, litre etc.	Chalkboard illustration Discussion Trainee activities Assessment
16.0	AREAS OF PLAIN FIGURES	Figures: <ul style="list-style-type: none"> • Square • Rectangle • Triangle • Trapezium • Circle • Ellipse • Annulus • Circumference of a circle 	Shapes of plain figures	Chalkboard illustration/ Discussion/ Charts/ Discussion/ Trainee activities/ Assess trainees
17.0	CURVED SURFACE AREAS	Objects: <ul style="list-style-type: none"> • Cylinder • Cone • Pyramid etc. 	Shapes	Chalkboard activities/ Charts/ Real objects/ Assess trainees
18.0	TOTAL SURFACE AREA	Objects: <ul style="list-style-type: none"> • Cylinder • Cone • Sphere • Pyramid • Cube • Rectangular prism etc. 	Shapes	Chalkboard activities/ Discussions/ Trainee activities/ Assessment

CERTIFICATE ONE – TRADE SCIENCE/CALCULATION

TASK		CRITICAL SKILLS	SUB-SKILLS	INSTRUCTIONAL TECHNIQUES
19.0	VOLUME OF OBJECTS	Objects: <ul style="list-style-type: none">• Sphere• Cube• Cone• Pyramid• Cylinder• Rectangular prism etc.	Shapes	Chalkboard illustration/ Discussion/ Trainee activities/ Assessment

CERTIFICATE ONE – TRADE DRAWING

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
1.0	INTRODUCTION TO DRAWING	<p>Difference between freehand drawing and geometrical drawing</p> <p>Drawing instruments: Tee-square, pencil, eraser, drawing board, set squares, rule, protractor, dividers, pair of compass etc.</p> <p>Uses of the various instruments</p>	<p>Know additional instruments for drawing. E.g. charcoal, pencil etc.</p> <p>Care and maintenance of each tool</p>	Show real instruments to Trainees Assessment
2.0	MEASUREMENTS	<p>Change from imperial system to metric system</p> <p>Measure in metric units (SI units)</p>	Demonstrate competence in numeralcy	<p>Chalkboard illustration</p> <p>Trainee activity Assessment</p>
3.0	STANDARD LETTERING	Standard freehand letters and numerals used in drawing		<p>Demonstration on chalkboard</p> <p>Trainee activity assessment</p>
4.0	CONSTRUCTION OF LINES	<p>Types of Lines:</p> <ul style="list-style-type: none"> • Vertical • Horizontal • Parallel 	<p>Types of Construction Lines:</p> <ul style="list-style-type: none"> • Continuous (thick) • Continuous (thin) • Short dashes • Hidden • Centre • Chain • Dimension • Extension 	<p>Chalkboard illustration Demonstration Trainee activity Assessment</p> <p>Divide a given length of line into a number of equal parts</p> <p>Divide a given length of line into a ratio</p>

CERTIFICATE ONE – TRADE DRAWING

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
5.0	CONSTRUCTION OF ANGLES AND TRIANGLES	Types of Angles: Acute, obtuse right, reflex Types of triangles: <ul style="list-style-type: none"> • Right-angled • Scalene • Obtuse • Acute • Equilateral • Isosceles 	Sum of degrees in following angle: <ul style="list-style-type: none"> • Acute • Obtuse • Right • Reflex • Triangle • Straight ; 	Chalkboard illustration Demonstration Trainee activity Assessment
6.0	CONSTRUCTION OF QUADRILATERALS	Types of quadrilaterals: <ul style="list-style-type: none"> • Rectangle • Rhombus • Square • Parallelogram • Trapezium • Kite etc. 	Difference between triangle and quadrilateral	Chalkboard illustration Trainee activity Assessment
7.0	CONSTRUCTION OF A CIRCLE	<ul style="list-style-type: none"> • Construction of a circle: • Various parts of a circle: Radius, diameter, chord, circumference, sector, segment, arc, semi-circle, quadrant etc. 		Chalkboard illustration/ Trainee activity/ Assessment
8.0	CONSTRUCTION OF ELLIPSE	Methods: <ul style="list-style-type: none"> • Square • Circular • Trammel • Concentric circle 	Major axis and minor axis Difference between a circle and an ellipse	Chalkboard/ Illustration/ Trainee activity

CERTIFICATE ONE – TRADE DRAWING

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
9.0	FREEHAND DRAWING	<ul style="list-style-type: none"> • Drawing of tools and other objects • Freehand drawing of grouped objects. • Freehand drawing of still-life objects 		Discussion/ Demonstration/ Trainee activity with a group of objects Assessment
10.0	CONSTRUCTION OF MUNSELL COLOUR CIRCLE	The ten munsell colour circle: <ul style="list-style-type: none"> • Yellow • Green yellow • Green • Blue green • Purple blue • Purple • Red purple • Red • Yellow red 		Discussion/ Trainee activity/ Assessment

CERTIFICATE ONE - PRACTICALS

TASK		CRITICAL SKILLS	SUB-SKILLS	INSTRUCTIONAL TECHNIQUES
1.0	Introduction to tools and equipment	Tools: Scraper, hacking knife, pallette knife, wire brush etc. Uses of tools	<ul style="list-style-type: none"> Maintenance of tools and equipments Storage 	<ul style="list-style-type: none"> Show real tools or charts Demonstrate uses
2.0	Introduction to brushes	Types of brushes: <ul style="list-style-type: none"> Flat wall brush, two knots brush, radiator brush etc. Uses of brushes 	<ul style="list-style-type: none"> Cleaning, care and maintenance Storage 	<ul style="list-style-type: none"> Show real types or charts demonstration
3.0	Introduction to paint rollers	Types <ul style="list-style-type: none"> Cylinder roller, curved roller Uses of rollers 	<ul style="list-style-type: none"> Cleaning, care and maintenance Storage 	<ul style="list-style-type: none"> Show real types or charts Demonstration
4.0	Preparation of surfaces. (New and previously painted)	Surfaces <ul style="list-style-type: none"> Cement Plaster Wood Concrete etc. 	<ul style="list-style-type: none"> Washing down for painting Application of stabilizing solution 	<ul style="list-style-type: none"> Demonstration Trainee activities
5.0	Preparation of surface	<ul style="list-style-type: none"> Bitumen coated surface Ferrous and non-ferrous metals 	<ul style="list-style-type: none"> Weathering of metals to remove mill-scale Scraping and wire brushing Application of sealer 	Demonstration and trainee activity
6.0	Preparation of surface	<ul style="list-style-type: none"> Hardwood Softwood 	Treatment of knots Removal of previous coating by: <ul style="list-style-type: none"> burning off paint remover 	Trainee activity/ Demonstration

CERTIFICATE ONE - PRACTICALS

TASK		CRITICAL SKILLS	SUB-SKILLS	INSTRUCTIONAL TECHNIQUES
7.0	Preparation of previously painted surface	<ul style="list-style-type: none"> • Cleaning and removal of grease • Abrading/sand papering • Stopping and filling 		Demonstration and trainee activity
8.0	Introduction to stopping and filling materials	Types: Powder fillers <ul style="list-style-type: none"> • Paste filler 	<ul style="list-style-type: none"> • Storage of fillers and stoppers • precaution 	Demonstration and students activity
9.0	Brush and paint roller application techniques	<ul style="list-style-type: none"> • Breaking – in of brushes • correct handling of brushes or rollers • Picking of paint with brush • Application and laying-off • Treatment of brushes during break-time 	<ul style="list-style-type: none"> • Cleaning of brushes and rollers • Care and maintenance • Storage 	Demonstration/activity by trainee
10.0	<ul style="list-style-type: none"> • Application of finishing paints 	<ul style="list-style-type: none"> • Slight rubbing down • Application techniques • Laying-off 	<ul style="list-style-type: none"> • Care and maintenance of tools • Storage • Safety precautions 	Supervision and assessment
11.0	Application of transparent and semi-transparent materials	Coatings: <ul style="list-style-type: none"> • Varnishes • Stains • Wood preservatives 	Cleaning, care and maintenance of tools	<ul style="list-style-type: none"> • Supervision • Trainee activity • Assessment

CERTIFICATE ONE - PRACTICALS

TASK		CRITICAL SKILLS	SUB-SKILLS	INSTRUCTIONAL TECHNIQUES
12.0	Draw Munsell colour circle of ten colours	Example of colours: <ul style="list-style-type: none"> • Yellow • Yellow/green • Green • Green/blue etc. 	<ul style="list-style-type: none"> • Division of the circle • Mixing of colours 	<ul style="list-style-type: none"> • Demonstration, trainee activity • Assessment
13.0	Colour mixing	Examples of colours: <ul style="list-style-type: none"> • Primary • Secondary • Tertiary 	Primary – Red, blue etc. Secondary – Green, purple etc. Tertiary – Olive, russet etc.	Supervision/ Direction/ Assessment
14.0	Stenciling	Types: <ul style="list-style-type: none"> • Positive stencil • Negative stencil 	<ul style="list-style-type: none"> • Motive designing • Cutting of stencils • Formation of ties • Disposal of stencil materials and raps 	Demonstration/ Trainee activity/ Supervision/ Assessment
15.0	Construction of Block letters	Types: <ul style="list-style-type: none"> • Capital • Lower case 	<ul style="list-style-type: none"> • Height/thickness ratio • Construction techniques 	<ul style="list-style-type: none"> • Illustration on the chalkboard/ • Trainee practice on drawing paper

CERTIFICATE ONE - PRACTICALS

TASK		CRITICAL SKILLS	SUB-SKILLS	INSTRUCTIONAL TECHNIQUES
16.0	Block lettering exercise	Types: <ul style="list-style-type: none"> • Capital • Lower case 	<ul style="list-style-type: none"> • Height/thickness ratio • Construction techniques 	<ul style="list-style-type: none"> • Supervision • Direction and • Assessment
17.0	Block letters	Filling-in with oil paint	Tools: <ul style="list-style-type: none"> • Mahl stick • Writers etc. 	<ul style="list-style-type: none"> • Demonstration • Supervision • Assessment
18.0	Construction of Gill San Serif letters	Types: <ul style="list-style-type: none"> • Capital • Lower case 	<ul style="list-style-type: none"> • Height/thickness ratio • Construction techniques 	<ul style="list-style-type: none"> • Chalkboard illustration • Trainee practice on paper
19.0	Gill San Serif exercise	Types <ul style="list-style-type: none"> • Capital • Lower case 	<ul style="list-style-type: none"> • Height/thickness ratio • Construction techniques 	<ul style="list-style-type: none"> • Supervision • Guidance • Assessment
20.0	Gill San Serif	<ul style="list-style-type: none"> • Filling-in with oil paint 	Tools: <ul style="list-style-type: none"> • Mahl stick • Writers • Palette knife etc. 	<ul style="list-style-type: none"> • Supervision • Assessment
21.0	Use of ladder and trestles	<ul style="list-style-type: none"> • Position of ladders on walls • Erection of step ladders and trestles • Ascending and descending techniques 	<ul style="list-style-type: none"> • Inspection and maintenance • Safety precautions 	<ul style="list-style-type: none"> • Demonstration • Trainee activity • Supervision

CERTIFICATE ONE - PRACTICALS

TASK		CRITICAL SKILLS	SUB-SKILLS	INSTRUCTIONAL TECHNIQUES
22.0	General painting (emulsion paint) INTERIOR	<ul style="list-style-type: none"> • Ceiling • Walls 	<ul style="list-style-type: none"> • Selection of tools • Mixing of paints • Techniques in cutting – in between ceiling and walls • Use of dust sheet • Safety precaution 	<ul style="list-style-type: none"> • Trainee activity • Supervision
23.0	General painting to <ul style="list-style-type: none"> • Doors • Windows (oil paint) INTERIOR	<ul style="list-style-type: none"> • Doors • Windows 	<ul style="list-style-type: none"> • Tools/brushes\ • Sequence of painting a door • Techniques in cutting-in • Safety 	<ul style="list-style-type: none"> • Demonstration • Trainee activity • Supervision

LEVEL – CERTIFICATE ONE – TEST SPECIFICATION TABLE**TRADE THEORY (OBJECTIVE)**

NO	TOPIC	COGNITIVE KNOWLEDGE	AFFECTIVE UNDERSTANDING	PSYCHOMOTOR APPLICATION	TOTAL
1.	Reasons for applying paint	1	2		3
2.	Tools and Equipment	2	1		3
3.	Paint Brushes	1	1		2
4.	Paint Rollers	1	1	1	3
5.	Preparation of Surfaces	1		2	3
6.	Safety, Health and Welfare	1	1		2
7.	Abrading Materials	1	1		2
8.	Stopping and filling		1	1	2
9.	Composition of paints	1	1		2
10.	Transparent and semi transparent materials	1	-		1
11.	Special purpose paints	1	-		1
12.	Water paints	1	1		2

LEVEL – CERTIFICATE ONE – TEST SPECIFICATION TABLE

TRADE THEORY (SUBJECTIVE)

NO	TOPIC	COGNITIVE KNOWLEDGE	AFFECTIVE UNDERSTANDING	PSYCHOMOTOR APPLICATION	TOTAL
1.	Colour	1			1
2.	Scaffolding	1			1
3.	Paint defects		1		1
4.	Methods of paint application			1	1
5.	Spray painting			1	1
					5