



NATIONAL VOCATIONAL TRAINING INSTITUTE
TESTING DIVISION

TRADE TESTING REGULATIONS AND SYLLABUS

TRADE: PAINTING AND DECORATING

LEVEL: CERTIFICATE TWO

CERTIFICATE TWO

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 TWO syllabus is designed to respond to the following level descriptors:

QUALIFICATION	KNOWLEDGE LEVEL	SKILLS AND ATTITUDE:
Certificate II	<ol style="list-style-type: none">1. To demonstrate broad knowledge base with substantial depth in area(s) of study.2. To demonstrate a command of analytical interpretation of range of data.3. To present results of study accurately and reliably.	<ol style="list-style-type: none">1. Needs varied skills and competencies in different tasks under various contexts.2. Require a wide range of technical and supervisory skills.3. Would be employed in different contexts.

- 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

Trade Theory
Science and Calculation
Trade Drawing
General Paper

Trade Practical

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

Practical work must be carefully planned to illustrate application of the theory and to provide maximum opportunity for shop practice, laboratory work and demonstration.

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 the Certificate One (I) examination.

F. ELIGIBILITY FOR ENTRY TO EXAMINATION

Candidates may enter for examination only as internal candidates. That is, those who at the time of entry to the examination are undertaking (or have already completed the course at an approved establishment) and has successfully passed the certificate One (1).

G. EXTERNAL EXAMINERS

The practical work of candidates will be assessed by an external examiner appointed by the 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

NVTI wishes to acknowledge the preparatory material done by the team of experts, which have been incorporated into this syllabus.

Mr. George Allan Mendis

Mr. John Quansah in reviewing the whole materials and making necessary additions and recommendation is also appreciated.

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

K. RECOMMENDED TEXT BOOKS FOR THE TRADE

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

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
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 TWO – TRADE THEORY

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
1.0	REASONS FOR APPLYING SURFACE	Four main reasons: <ul style="list-style-type: none">• Decoration• Preservation	Decoration – Hotels etc. Preservation – Wood metals Sanitation – Hospitals etc.	Discuss with trainees the reasons for applying surface coatings.

	COATING	<ul style="list-style-type: none"> Sanitation Identification 	Identification – Pipe lines	
2.0	STOPPING AND FILLING MATERIALS	<p>Stoppers and fillers:</p> <p>Stoppers – Hard stopper, linseed oil putty, linseed oil putty, mastic, cellulose stopper etc.</p> <p>Fillers – All purpose filler, polyfilla, brush or spray filler etc.</p>	<p>Stopper:</p> <p>Hard stopper – Wood, linseed oil putty wood</p> <p>Cellulose – Vehicles etc.</p> <p>Filler:</p> <p>All purpose - Wood, metal</p> <p>Polyfilla – Wood, metal , brush filler, metal, etc.</p> <ul style="list-style-type: none"> Uses Storage 	<ul style="list-style-type: none"> Demonstration Use samples of filler and stopper
3.0	PREPARATION OF CEMENT-BASED SURFACES	<p>Cement based surface: plaster</p> <ul style="list-style-type: none"> Building blocks Asbestos cement sheeting <p>Selection of appropriate tools and primer</p>	<ul style="list-style-type: none"> Removal of efflorescence (if any) Denib with stripping knife Reasons for not abrading surface Safety precautions 	Discussion with trainees
4.0	PREPARATION OF METALS	<ul style="list-style-type: none"> Ferrous metals: Iron, steel, cast iron Wrought iron, mild steel etc. Non ferrous metals Aluminium, zinc, copper, brass, bronze, lead, tin, etc. 	<p>Methods of preparation: E.g. Abrasive – cleaning, acid pickling, flame cleaning, etc.</p> <p>Use of safety and health equipments Primers for ferrous and non ferrous</p>	<p>Discuss various processes with trainees</p> <p>Discuss types of primers</p> <p>Lecture</p>

CERTIFICATE TWO – TRADE THEORY

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
5.0	SAFETY, HEALTH AND WELFARE	<p>Safety precaution:</p> <ul style="list-style-type: none"> erection and use of scaffolds use of fire extinguishers 	<p>Understand the causes and prevention of spontaneous combustion</p>	Discussion with trainees

		<ul style="list-style-type: none"> • use of protective clothing • prevention of industrial dermatitis 		
6.0.	ABRAZING MATERIALS AND EQUIPMENTS	<p>Abrasives:</p> <ul style="list-style-type: none"> • Groups of abrasive materials • Coated powdered abrasives <p>Other equipments: Orbital sander; rotary, disc sander, belt sander, rotary wire brush etc.</p>	<p>Safety precautions when using the equipments</p> <ol style="list-style-type: none"> wear goggles wear hand goggles etc <p>Care and maintenance of equipments</p>	<p>Show real equipments, pictures or charts</p> <p>Demonstrate</p>
7.0.	COMPOSITION OF PAINTS	<p>Composition of Paints:</p> <ul style="list-style-type: none"> • Pigments • Binder • Thinner • Drier <p>Additive in paints:</p> <ul style="list-style-type: none"> • Extenders • Stabilizer • Anti-skinning agents • Thixotropic agents • Resins • Plasticiser 	<p>Colours of different pigments</p> <p>White – Titanium oxide etc. Blue – Prussian blue etc. Green – Emerald etc. Yellow – Chrome etc. Black – Carbon etc. Red – Vermilian etc. Brown – Vandyke etc.</p>	<p>Discussion with trainees</p>

CERTIFICATE TWO – TRADE THEORY

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
8.0.	SEQUENCE OF PAINT	<p>Sequence of Application:</p> <ul style="list-style-type: none"> • Sealer 	<ul style="list-style-type: none"> • Wood – sealer Undercoat finishing 	<p>Discussion</p>

	APPLICATION	<ul style="list-style-type: none"> • Primer • Undercoat • Finishing coat • Functions of each coating 	<ul style="list-style-type: none"> • Plaster – Primer Undercoat, finishing • Metal – primer Undercoat, finish etc. 	
9.0	TRANSPARENT AND SEMI-TRANSPARENT COATINGS	<p>Transparent materials</p> <ul style="list-style-type: none"> • Stains • Varnish • Wood preservatives 	<p>Methods of application:</p> <ul style="list-style-type: none"> • Pressure impregnation • Steeping • Dipping • Brush, spray or swab 	Discussion with trainee
10.0	COLOUR	<p><u>Twelve colours</u></p> <ul style="list-style-type: none"> • Red purples • Reds • Yellow reds • Yellows • Green etc. 	<p><u>Safety signs</u></p> <p>Prohibition – Red Warning – Yellow Mandatory – Blue Emergency - Green</p>	Chalkboard illustration Trainee activity
11.0	LETTERING	<p><u>Roman Letters</u> <u>Free-hand and geometrical style</u></p> <p>Setting out of Roman and other letters in free hand and geometrical style. Construction of correct serifs</p>	<ul style="list-style-type: none"> • Techniques of painting – in various types of letters. • Tools and their uses • Cleaning 	<ul style="list-style-type: none"> • Chalkboard illustration • Trainee activity

CERTIFICATE TWO – TRADE THEORY

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
12.0.	STENCILLING	Material used for cutting stencils:	Other stencil materials:	<ul style="list-style-type: none"> • Discussion

		<ul style="list-style-type: none"> • Self-prepared • Ready-prepared stencil paper • Plastic stencil sheet • Metal stencil sheet etc. 	<ul style="list-style-type: none"> • Masking tape • Lining tape • Liquid adhesive 	<ul style="list-style-type: none"> • Illustrations • Trainee activity
13.0	SPRAY PAINTING	Spray guns: i. Airless spray ii. Electrostatic spray	<ul style="list-style-type: none"> • Care and maintenance • Storage • Advantages and disadvantages 	<ul style="list-style-type: none"> • Show real specimen or pictures • Lecture • Discussion
14.0.	JOB PLANNING (INTERIOR)	Parts of a room: E.g. Ceiling bed, cornice, frieze, wall filling, dado, dado rail skirting.	<ul style="list-style-type: none"> • Safety precaution when working • Cleaning on completion 	<ul style="list-style-type: none"> • Show real divisions of a room • Illustrate by the use of chart • Lecture • Discussion
15.0	JOB PLANNING (EXTERIOR)	Parts of the Exterior of a building: Fascia board, gutters, walls, etc.	<ul style="list-style-type: none"> • Cleaning of working area on completion • Safety precautions • 	<ul style="list-style-type: none"> • Lecture • Discussion

CERTIFICATE TWO – TRADE SCIENCE AND CALCULATION

TASK	CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
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1.0	PROPERTIES OF PAINT	<p>Properties of paint :</p> <ul style="list-style-type: none"> • Consistency • Opacity • Spreading capacity • Adhesion • Elasticity/flexibility • Density • Drying speed • Flow • Durability <p><u>Conditions that can affect the properties of paint:</u> Cold weather, hot weather , highly porous surface, industrial pollution etc.</p>	Different types and their properties	<p>Discussion</p> <p>Discussion</p>
2.0	TYPES OF FILMS	<ul style="list-style-type: none"> • Convertible (non-reversible) • Non – convertible (reversible) 	<p><u>Convertible coatings:</u></p> <ul style="list-style-type: none"> • Epoxy resin paint • Oil paint • Oil varnish <p><u>Non – convertible coatings</u></p> <ul style="list-style-type: none"> • Cellulose paint • Bitumen Spint varnish 	<p>Discussion</p> <p>Trainee activities</p>

CERTIFICATE TWO – TRADE SCIENCE AND CALCULATION

TASK	CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
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3.0	CONDENSATION AND DAMPNESS	<p><u>Causes:</u></p> <p><u>Condensation:</u> Warm air coming into contact with cold surface</p> <p><u>Dampness:</u></p> <ul style="list-style-type: none"> • Moisture in new building materials • Moisture penetrating from outside • Rising damp • Condensation 	<ul style="list-style-type: none"> • Treatment of damp surfaces • Treatment of condensation • Effects of dampness and condensation on painted surfaces • Formation and treatment of pattern staining 	<p>Discussion</p> <p>Trainee activities</p>
4.0	ACIDS AND ALKALI	<p>Difference between acid and alkali</p> <p><u>Building materials that are alkali in nature:</u></p> <ul style="list-style-type: none"> • Asbestos, brick, concrete, cement rendering etc. <p><u>Building materials that are acidic in nature:</u> Wood, oak, chestnut, red cedar, surfaces in industrial area</p> <p><u>Effect of alkali:</u></p> <ul style="list-style-type: none"> • Saponification <p><u>Effect of acids:</u></p> <ul style="list-style-type: none"> • Efflorescence • Bleaching 	<p>Use red or blue litmus paper to detect acid or alkaline.</p>	<p>Discussion</p> <p>Laboratory test</p>

CERTIFICATE TWO – TRADE SCIENCE AND CALCULATION

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
5.0	FUNGI	<p>Definition of fungus:</p> <p><u>Types of fungus:</u></p>	<p>Treatment of fungi before and after painting</p>	<p>Show real examples of fungi</p>

		<ul style="list-style-type: none"> • Mould, lichen, moss, dry rot, wet rot, etc. Effects of fungi on paint application		Discussion
6.0	SOLUTION, SUSPENSION, EMULSION, AND COLLOIDAL STATE	<ul style="list-style-type: none"> • Meaning of solution, suspension, emulsion and colloidal state • Difference between the stated mixtures E.g. of the stated mixtures	<ul style="list-style-type: none"> • Experiment on each of the mixtures 	Demonstration Trainee activity
7.0	DEFECTS (PAINT APPLICATION)	Application defects: <ul style="list-style-type: none"> • Bittiness • Fat edges • Flashing/sheariness • Grinning • Lifting or picking up • Misses/holidays • Orange peel • Ropiness • Runs/sagging • Saponification • Wrinkling • Blooming • Causes of the above defects 	<ul style="list-style-type: none"> • Preventive methods of the defects • Remedy or cure the defects 	Show pictures of defect Show trainees the original defects (if any) Discussion with trainees
8.0	DEFECTS (IN TIN)	Defects in paint tin during storage: <ul style="list-style-type: none"> • Fattening, feeding, livering, settling, skinning Understand the causes of each defect	<ul style="list-style-type: none"> • How to prevent each defect • Remedy or cure of the defects 	Show pictures of defects to trainees Show trainees the original defect (if any) Discussions

CERTIFICATE TWO – TRADE SCIENCE AND CALCULATION

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
9.0	DEFECTS (ON	Defects on surface:	Prevention of the defects:	Discussion with trainees

	SURFACE)	<ul style="list-style-type: none"> • Efflorescent, lichen, moss and algae, moulds fungus, dry rot, wet rot, wet rot, pattern staining • Causes of each defect 	<ul style="list-style-type: none"> • Treatment of remedy of the defects 	
10.0	DEFECTS ((PAINT FILM)	Paint film defects: <ul style="list-style-type: none"> • Bleaching • Blistering • Bleeding • Chalking • Cissing • Cracking or crazing • Flaking or peeling • Loss of gloss and sinking • Cause of each defect 	How to prevent each defect Remedy or treatment of each defect	Show pictures or real samples of defect to trainees Discussion with trainees
11.0	TOTAL SURFACE AREA (Revision exercises)	Total surface area of the objects below: <ul style="list-style-type: none"> • Cylinder • Cone • Sphere • Pyramid • Cube • Rectangular prism etc • 	The shapes of the objects	Chalkboard activities Trainee activities Assessment

CERTIFICATE TWO – TRADE SCIENCE AND CALCULATION

TASK	CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
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12.0	SURFACE AREA OF A ROOM	<ul style="list-style-type: none"> • Area of ceiling and floor • Area of walls • Area of doors and windows 	Tools used for measuring: Rule, tape etc.	<ul style="list-style-type: none"> • Chalkboard illustrations • Discussion • Trainee activity • Assessment
13.0	SURFACE AREA OF A ROOM	Determine the actual wall surface to be painted by subtracting area of doors and windows (openings) from total wall area.	Addition and subtraction	<ul style="list-style-type: none"> • Chalkboard illustration • Discussion • Trainee activity • Assessment
14.0	SURFACE AREA OF A ROOM	Determine the actual wall surface to be painted by expressing OPENINGS as a percentage of the walls. E.g. Openings (door and windows) is equal to 40% of walls. Actual walls = Total walls minus 40%		<ul style="list-style-type: none"> • Chalkboard illustration • Discussion • Trainee activities • Assessment
15.0	COSTING	<ul style="list-style-type: none"> • Quantities of material for a specific job • Cost of materials to be used for job • Cost of tools needed for job 		<ul style="list-style-type: none"> • Chalkboard illustration • Discussion • Trainee activity • Assessment

CERTIFICATE TWO – TRADE SCIENCE AND CALCULATION

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
16.0	COSTING	Calculation of LABOUR Cost taking into consideration the tasks below and total man-hour to finish and wage/day <ul style="list-style-type: none"> • Scraping • Rubbing – down • Priming • Filling • Application of finish (two coats) • Application of oil finish (doors and windows) 		<ul style="list-style-type: none"> • Chalkboard illustration • Discussions • Trainee activity assessment
17.0	COSTING	Meaning of Prime Cost: <ul style="list-style-type: none"> • Calculation of the PRIME COST • By adding material cost to labour cost 	Demonstrate competence in addition and subtraction	<ul style="list-style-type: none"> • Chalkboard activities • Discussion • Assessment
18.0	COSTING	Meaning of GROSS PROFIT: Calculate gross profit as a percentage of the prime cost of the job. E.g. Gross profit is equal to 45% of prime cost = $\frac{45}{100}$ x prime cost	Apply knowledge in percentage	<ul style="list-style-type: none"> • Chalkboard activities • Discussion • Assessment
19.0	COSTING	<u>Meaning of Overheads:</u> Calculate overheads as a percentage of the gross profit. E.g. Overheads is 30% of gross profit	Apply knowledge in percentages	<ul style="list-style-type: none"> • Chalkboard activities • Discussion • Assessment
20.0	COSTING	Difference between gross profit and Net profit: Ability to calculate NET PROFIT by subtracting overheads from gross profit. i.e. Net profit equals Gross profit – overheads	Demonstrate skills in addition and subtraction	<ul style="list-style-type: none"> • Chalkboard activities • Discussion • Assessment

CERTIFICATE TWO – TRADE DRAWING

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
1.0	GEOMETRICAL DRAWING EXERCISES	Exercises: <ul style="list-style-type: none"> • Circle • Ellipse • Rectangle • Square etc. 		<ul style="list-style-type: none"> • Trainee activity • Assessment
2.0	SCALES	Types: <ul style="list-style-type: none"> • Plain scale • Diagonal scale 		<ul style="list-style-type: none"> • Demonstration • Trainee activity • Assessment
3.0	PROJECTIONS	Types: <ul style="list-style-type: none"> • Isometric • Oblique • Orthographic 	Use of set square for the types of projections	<ul style="list-style-type: none"> • Demonstration • Trainee activity • Assessment
4.0	PRODUCTION OF ELEVATIONS	Views: <ul style="list-style-type: none"> • Front elevations • End elevations • Plan 	Use of set square for the types of projections	<ul style="list-style-type: none"> • Demonstration on chalkboard • Trainee activity • Assessment
5.0	CONSTRUCTION OF POLYGONS	Types: <ul style="list-style-type: none"> • Pentagon • Hexagon • Heptagon • Octagon etc. 	Methods: <ul style="list-style-type: none"> • Set square • Compass etc. 	<ul style="list-style-type: none"> • Demonstration on chalkboard • Trainee activity • Assessment

CERTIFICATE TWO – TRADE DRAWING

TASK		CRITICAL POINTS	SUB-POINTS	INSTRUCTIONAL TECHNIQUES
6.0	FREEHAND DRAWING	Types: <ul style="list-style-type: none"> • Flowers • Trees • Pots etc. 		<ul style="list-style-type: none"> • Chalkboard illustration • Trainee activity • Assessment
7.0	REPRODUCTION OF DESIGNS	Types: <ul style="list-style-type: none"> • Enlargement • Reduction 	Methods: Squaring	<ul style="list-style-type: none"> • Chalkboard illustration • Trainee activity • Assessment
8.0	PERSPECTIVE DRAWING	Types <ul style="list-style-type: none"> • Houses • Boxes • Roads etc. 		<ul style="list-style-type: none"> • Chalkboard illustration • Trainee activity • Assessment
9.0	SHADING	<ul style="list-style-type: none"> • Light • Dark 	Using – Orange Pot Cube etc.	<ul style="list-style-type: none"> • Chalkboard illustration • Trainee activity • Assessment
10.0	DRAWING OF LABELS	Labels: <ul style="list-style-type: none"> • Club beer • Match box • Tigo • Kasapa etc. 		<ul style="list-style-type: none"> • Chalkboard illustration • Trainee activity • Assessment
11.0	SECTION OF OBJECTS	<ul style="list-style-type: none"> • Cylinder • Cone • Sphere etc. 		<ul style="list-style-type: none"> - Chalkboard activities - Trainee activities - Assessment

CERTIFICATE TWO - TRADE PRACTICALS

TASK		CRITICAL SKILLS	SUB-SKILLS	INSTRUCTIONAL TECHNIQUES
1.0	TOOLS AND EQUIPMENTS	Types of Tools Scrapper, universal scraper, filling knife, stopping knife etc.	Uses of tools: <ul style="list-style-type: none"> Care and maintenance of tools and equipment Storage 	Guide trainees to identify, compare and select different types of tools and equipment
2.0	EXERCISE ON THE USE OF VARIOUS TYPES OF BRUSHES	Types: Flat wall brush – Radiator brush Two knot brush – Flat paint brush, block brush etc.	<ul style="list-style-type: none"> Cleaning Maintenance Storage 	Guide students on the use of various types of brushes
3.0	EXERCISE ON THE USE OF VARIOUS TYPES OF PAINT ROLLERS	<ul style="list-style-type: none"> Select suitable type of paint roller for a specific work Handling and application 	<ul style="list-style-type: none"> Cleaning Care/maintenance Storage 	Guide students on the various types of paint rollers
4.0	USING VARIOUS TYPES OF STOPPING AND FILLING MATERIALS	<ul style="list-style-type: none"> Selection of the appropriate stopper or filler for a specific work Mixing with a filling knife Using putty knife for stopping Application of filler 	<ul style="list-style-type: none"> Precautions to be observed when handling filler or stopper Storage 	<ul style="list-style-type: none"> Demonstration Student activity
5.0	PREPARATION OF PLASTER AND CEMENT-BASED SURFACE	<ul style="list-style-type: none"> Removal of plaster nibs Rubbing down/dusting Application of appropriate primer Filling / making-good 	<ul style="list-style-type: none"> Safety precautions during preparation Use of appropriate tools 	<ul style="list-style-type: none"> Demonstration Student activity
6.0	EXERCISE ON THE PREPARATION OF WOOD PRODUCTS	<ul style="list-style-type: none"> Rubbing down with abrasive Treatment of knots (if any) Select a suitable primer and apply Application of filler or stopper 	<ul style="list-style-type: none"> Mixing of the putty/filler Safety precautions to be observed when using filler and stoppers 	<ul style="list-style-type: none"> Introduction Guidance Assessment

CERTIFICATE TWO - TRADE PRACTICALS

TASK		CRITICAL SKILLS	SUB-SKILLS	INSTRUCTIONAL TECHNIQUES
7.0	PREPARATION OF METALS - FERROUS - NON-FERROUS	<ul style="list-style-type: none"> - Weathering of metals - Cleaning and removal of grease and oil materials - Scraping, wire brushing or abrading to remove rust and scale - Selection of suitable primer - Application of primer 	To differentiate between ferrous and non-ferrous metals Safety precautions Use of protective clothing/equipment	<ul style="list-style-type: none"> - Demonstration - Guidance - Student activity
8.0	PREPARATION OF OLD OIL-PAINTED SURFACE	<ul style="list-style-type: none"> - Washing down(for a finish or re-painting) - Removal of defective paint using paint remover - Burning – off - Rubbing and dusting - Application of primer - Filling and stopping 	Effective lightning and use of blow lams <ul style="list-style-type: none"> - Care and maintenance of equipment - Safety precautions when burning off - Selection of paint remover 	<ul style="list-style-type: none"> - Demonstration - Student activity
9.0	SAFETY, HEALTH AND WELFARE	Demonstration knowledge and USE of safety, health and welfare regulations concerning: <ul style="list-style-type: none"> - Fire precautions - Storage of materials - Lead paint regulations - Industrial hygiene - Protective equipments for (fumes, dust, noise, vibration) - First aid treatment 	<ul style="list-style-type: none"> - Effective selection and use of the safety equipment 	Demonstrate and guide students to use equipment
10.0	EXERCISE IN THE APPLICATION OF: - SEALERS - PRIMERS - UNDERCOAT - FINISHING PAINTS	<ul style="list-style-type: none"> - Selection of appropriate materials - Correct mixing of materials - Demonstration of application skills - Follow the correct sequence of application 	<ul style="list-style-type: none"> - Cleaning - Care/maintenance of tools - Storage 	<ul style="list-style-type: none"> - Demonstration - Guidance - Student activity

CERTIFICATE TWO - TRADE PRACTICALS

TASK		CRITICAL SKILLS	SUB-SKILLS	INSTRUCTIONAL TECHNIQUES
11.0	Application of transparent and semi-transparent coating	<ul style="list-style-type: none"> - Selection of appropriate material - Correct mixing of material - Demonstration of application skills with varnishes, stains and wood preservation 	<ul style="list-style-type: none"> - Working under good weather conditions - Cleaning, care and maintenance of tools - Storage 	<ul style="list-style-type: none"> - Demonstration - Student activity
12.0	Exercise on the application of special paints	<ul style="list-style-type: none"> - Demonstration the ability to select special paints for special purpose - Then use of correct thinners - Effective application techniques (use of brush, roller or spray gun) 	<ul style="list-style-type: none"> - Ability to observe and work under good weather conditions - Observance of the use of safety, health and welfare of equipment 	<ul style="list-style-type: none"> - Introduction - Student activity - Assessment
13.0	Draw and paint the munsel colour circle	<ul style="list-style-type: none"> - Construct a circle and divide into TEN equal segments - Mix and paint the colours in the correct order 	<ul style="list-style-type: none"> - Geometrical drawing 	Guidance to draw circle, divide and fill-in-with mixed paints
14.0	Exercise on pigmentry colours	<ul style="list-style-type: none"> - Select or mix colours to obtain - Primary colours - Secondary colours - Tertiary colours 	<ul style="list-style-type: none"> - Selection of correct tools for mixing - Cleaning, care and storage of tools 	<ul style="list-style-type: none"> - Provide different colours - Supervision - Assessment
15.0	Exercise in construction and painting of block Letters <ul style="list-style-type: none"> - Capitals - Lower Case 	<ul style="list-style-type: none"> - Determine the height/thickness ration - Construction of letters on drawing paper - Trace/transfer letters onto panel - Fill-in letters with paint using suitable writers 	<ul style="list-style-type: none"> - Use of correct drawing equipment - Use of correct tools - Cleaning - Maintenance/care - Storage of tools 	<ul style="list-style-type: none"> - Supervision - Assessment

CERTIFICATE TWO - TRADE PRACTICALS

TASK		CRITICAL SKILLS	SUB-SKILLS	INSTRUCTIONAL TECHNIQUES
16.0	Exercise in construction and painting of Gill San Serif - Capitals - Lower case	<ul style="list-style-type: none"> - Determine the height/thickness ration - Determine the stroke thickness - Construction of letters on drawing paper - Trace / transfer letters on drawing a panel - Fill letters with paint using suitable writers 	<ul style="list-style-type: none"> - Use of correct drawing equipments - Use of correct tools - Cleaning - Maintenance/care - Storage of tools 	<ul style="list-style-type: none"> - Supervision - Assessment
17.0	Introduction to modern Block letters	<ul style="list-style-type: none"> - Determine the height and thickness ration - Determine the difference between thick stroke and thin stroke - Construct letters on drawing sheet 	<ul style="list-style-type: none"> - Use of correct drawing equipment 	<ul style="list-style-type: none"> - Chalk board illustration - Student activity - Assessment
18.0	Stenciling exercise - Positive - Negative	Demonstrate skills in: <ul style="list-style-type: none"> - Design of motives, letters and simple objects - Cutting of stencil - Formation ties - Application of paint onto motif 	<ul style="list-style-type: none"> - Geometric and free hand drawing - Selection of tools and techniques - Correct disposal of rags(to prevent spontaneous combustion) 	<ul style="list-style-type: none"> - Student activity - Supervision - Assessment
19.0	Introduction to spray painting	<ul style="list-style-type: none"> - Prepare surface to suitable standards - Masking (if any) - Mixing of paint into suitable consistency - Selection of suitable gun for spraying - Demonstrate correct spraying techniques 	<ul style="list-style-type: none"> - Assembling of spraying equipment - Safety precautions - Cleaning of gun - Storage 	<ul style="list-style-type: none"> - Demonstration - Student activity

CERTIFICATE TWO - TRADE PRACTICAL

TASK		CRITICAL SKILLS	SUB-SKILLS	INSTRUCTIONAL TECHNIQUES
20.0	Introduction to scaffolding <ul style="list-style-type: none"> - Putlog - Independent - Mobile scaffold 	<ul style="list-style-type: none"> - Understand and demonstrate skills in erection of the scaffolds - Techniques in ascending and descending scaffold 	<ul style="list-style-type: none"> - Inspection of scaffold for safety (every 7 days) - Application of safe working regulations 	<ul style="list-style-type: none"> - Guidance to erect a tubular scaffold - Demonstrate ascending and descending techniques - Guide students to dismantle scaffold
21.0	General painting (INTERIOR) <ul style="list-style-type: none"> - Ceiling - Walls 	<ul style="list-style-type: none"> - Prepare surface of ceiling and walls - Mix emulsion to a suitable consistency - Application of paint to ceiling - Application of paint to walls - Demonstrate skills in cutting – in between ceiling and walls 	<ul style="list-style-type: none"> - Cleaning of tools - Observation of safety regulations - Storage of tools - Cleaning of paint droppings 	<ul style="list-style-type: none"> - Guidance - Supervision
22.0	General painting (INTERIOR) <ul style="list-style-type: none"> - Doors - Windows 	<ul style="list-style-type: none"> - Rubbing down/dusting off - Select suitable primer for doors and windows - Mix primers to a suitable consistency - Demonstrate skills in painting - Fill holes and cracks - Rub down filler and apply undercoat - Demonstrate skills in applying finishing coat i.e. laying off and correct cutting - in 	<ul style="list-style-type: none"> - Observation of safety regulations - Cleaning of tools - Storage of tools 	<ul style="list-style-type: none"> - Guidance - Supervision

CERTIFICATE TWO - TRADE PRACTICAL

TASK		CRITICAL SKILLS	SUB-SKILLS	INSTRUCTIONAL TECHNIQUES
23.0	General painting (EXTERIOR)	<ul style="list-style-type: none"> - Preparation of surface - Demonstrate skill in exterior painting from; ceiling to wall - Select suitable primer for exterior wood members - Prime fascia board and exterior doors and windows - Fill cracks and nail holes - Rub down filler and dust off - Apply undercoat - Demonstrate skills in applying finishing off and cutting-in 	<ul style="list-style-type: none"> - Observation of safety regulations - Cleaning of tools - Storage of tools 	<ul style="list-style-type: none"> - Guidance - Supervision

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

NO	TOPIC	COGNITIVE KNOWLEDGE	AFFECTIVE UNDERSTANDING	PSYCHOMOTOR APPLICATION	TOTAL
1.	Reasons for applying paints	1			1
2.	Tools and equipment	1	1		2
3.	Paint brushes	1	1		2
4.	Paint rollers	1	1		2
5.	Preparation of surfaces	1		1	2
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.	Special purpose paints	1	1		2
11.	Water paints	1	1		2
12.	Stencilling	1		1	2
13.	Colour	1	1		2

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

NO	TOPIC	COGNITIVE KNOWLEDGE	AFFECTIVE UNDERSTANDING	PSYCHOMOTOR APPLICATION	TOTAL
1.	Scaffolding	1			1
2.	Spray painting	1	1	1	3
3.	Paint defects	1			1
					5